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ABSTRACT

Compiled from materials collected from 150 teachers of agriculture across New York State who participated in a series of 11 regional agriculture inservice workshops, this resource guide contains innovative techniques for classroom operation as well as suggestions for using available resources. The ideas have been organized into the following eight sections: check lists and forms, content outlines and organization, demonstrations and field trips, diagrams and plans, games and puzzles, references and resources, review and study guides, and role play and simulation. Topics covered in individual learning activities include planting crops, pricing, energy conservation, livestock production and management, shop equipment safety, work incentives, shop management, work experience programs, developing grant proposals, community problem solving, community development and government, farm management, soil structure and conservation, styles of leadership, milk marketing, basic nutrition, embryology and incubation, equipment operation and safety, botany, computer use, plant science, commodities, and career exploration and job hunting. (MN)

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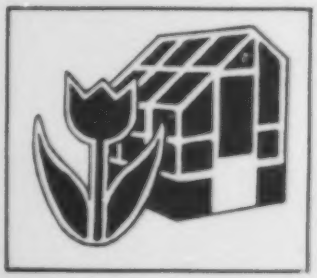

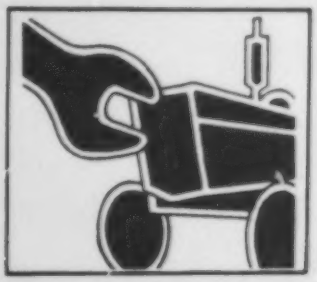

INNOVATIVE TEACHING IDEAS

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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A SHARING OF TEACHING TIPS, IDEAS, AND METHODS

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Edited by: Richard W. Tenney
Carol L. Zimmerman
Daryle E. Foster

New York State College of Agriculture and Life Sciences
a Statutory College of the State University
Cornell University

CE 029 654

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*****

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- Carol L. Zimmerman, who served as assistant project coordinator and saw to it that the material collected from the workshops was organized and complete for this resource guide; and
- Daryle E. Foster, who saw to it that IMS materials were presented and explained at each workshop, and who encouraged all teachers to participate during the workshops.

James A. Dunn
Professor of Education, and
Director, Cornell Institute for
Occupational Education
Department of Education

SUGGESTIONS FOR THE USER

This resource guide of innovative teaching ideas contains a wide variety of material collected from 150 teachers of agriculture across New York State who participated in a series of 11 regional agricultural inservice workshops held in the Spring of 1981. The material contained in this guide includes innovative techniques for classroom operation as well as suggestions for using a variety of resources available to you, the teacher.

To encourage teachers to be innovative in using new teaching ideas and adapting them to their own special circumstances, the ideas in this resource guide have been organized into the following eight sections:

I. CHECK LISTS/FORMS - ideas that involve your possible use of a check sheet, checkoff list, record form, or record keeping idea.

II. CONTENT OUTLINES/ORGANIZATION - ideas that involve the organization of material with samples of material outlines.

III. DEMONSTRATIONS/FIELD TRIPS - showing by demonstration or taking your students to the real object.

IV. DIAGRAMS/PLANS - a "how to construct" section containing plans and ideas for how you might use them.

V. GAMES/PUZZLES - a collection of student games, word searches, cross-word puzzles, and fun techniques. (We have included keys to nearly all the puzzles to make it easier for you. Believe us, this was our most challenging section to edit -- especially where no key was provided with the original material. Some of these will have your students really scratching their heads.)

VI. REFERENCES/RESOURCES - included are people, opportunities represented right in your community, and puolished materials of various types.

VII. REVIEW/STUDY GUIDES - here you will find materials to assist students study or review in a wide variety of technical subject matter areas.

VIII. ROLE-PLAY/SIMULATION - these are ideas that have you and the students simulating what really happens on the job, or role-playing parts to make the material "come alive."

It is our hope that you will use, in a "generic" sense, the ideas presented in this guide. That is, you will take the idea or technique suggested and plug in the appropriate subject matter for the area you are teaching. This means that a given idea is not the special property of any one technical content specialization. You have the imagination and innovativeness to make any of these ideas yours.

For example, page 16 presents the idea of students serving as supervisor for daily shop clean-up. This concept of student responsibility (on a rotating basis) could be

applied to any laboratory or class as students are assigned as crew chief on a forest stand management plot, greenhouse manager for a mum growing project, or boss of a corn planting crew.

Another situation that might work for you is using the idea of "The Job Market in Dairying" found on page 226. Simply make it "The Job Market in *(your area)*."

Many of the ideas suggested were prepared in a format that will allow you to take the form, study guide, etc. and use it as a master for making an overhead transparency or duplicating multiple copies for distribution to each student. In order to provide a master that could be used by any teacher, names and schools were removed from some ideas submitted. Please refer to Index B for the name of the person who submitted a specific idea.

For possible ease in locating and using specific subject matter, each idea has been coded according to the Agdex filing system. (see Index A for a total listing in Agdex order).

Take this resource guide of innovative teaching ideas and use your imagination to motivate and challenge your students. Above all --

HAVE FUN!

The Editors:

Richard W. Tenney
Carol L. Zimmerman
Daryle E. Foster

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GREENHOUSE OBSERVATION SHEET

Each student, using the form at the bottom, goes through the greenhouse and notes the troubles or problems present. (Example - aphids, broken glass, or dry plants.)

Objectives

1. To develop the students ability to observe and recognize items that need attention. It develops good habits of observation.
2. To find problems that need attention.

Use

1. Can be used periodically throughout the year.
2. The first time through the students have more time - i.e. 30 minutes.
3. Grades can lead to more care by docking them for missing important problems.
4. Scoring - the student that notices the most faults - 100 points

Variations

1. Shop safety observation sheet (problems, safety measures used, etc.)
2. Land lab observation sheet.

Greenhouse Observation Sheet

Student_____ Class_____ Date_____

Bench #	Crop	Problem Observed

STUDENT CROP PLOTS

Crop Plan 19___ ____ Feet long x ____ Feet long Name _____

Field Planting	Greenhouse or Seed Bed	Crop	Variety	Days to Maturity	Rows	Feet	Amount Ordered	Remarks

-2-

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16

REFERENCE GUIDE FOR PLANTING VEGETABLE CROPS

JOHN BOWNE HIGH SCHOOL
Board of Education - City of New York
63-25 Main Street Flushing, New York 11367 212-263-1919

We are grateful to Mr. Lewis S. Kargman, teacher of agriculture, at John Bowne High School who has compiled this handy reference guide for planting vegetable crops.

No.	Vegetable	Distance between rows inches	Distance within rows inches	Planting depth inches	Seeds per foot of row or hill	No.
1.	Bean bush snap	28	3	1 1/2	5	1.
2.	Bean pole snap	36	24	1 1/2	4 (2)	2.
3.	Bean bush lima	28	4	1 1/2	4	3.
4.	Bean pole lima (2)	36	24	1 1/2	4 (2)	4.
5.	Beets	16	3	3/4	6	5.
6.	Broccoli (3)	30	18	1/2	3	6.
7.	Brussel sprouts	30	18	1/2	3	7.
8.	Cabbage (1)	30	18	-	-	8.
9.	Carrots	16	1 1/2	1/2	20	9.
10.	Chinese cabbage	24	10	1/2	4	10.
11.	Cauliflower (1)	30	18			11.
12.	Corn sweet	36	12	1 1/2	2	12.
13.	Cucumber (2)	72	72	1		13.
14.	Collards (3)	30	18	1/2	3	14.
15.	Chard swiss	24	6	3/4	4	15.
16.	Eggplant	36	30	-	-	16.
17.	Kale	24	10	1/2	4	17.
18.	Kohlrabi	16	4	1/2	10	18.
19.	Lettuce leaf	16	6	1/2	10	19.
20.	Lettuce head (1)	16	12	1/2	-	20.
21.	Onion seed	16	3	1/2	20	21.
22.	Onion set (1)	16	3	-	4	22.
23.	Peas dwarf early	18	1	1 1/2	12	23.
24.	Peas main crop	24	1	1 1/2	12	24.
25.	Pepper (1)	30	18	-	-	25.
26.	Parsley	16	4	1/4	20	26.
27.	Radish	12	1			27.
28.	Rutabaga	20	4	1/2	20	28.
29.	Spinach	12	4	1/2	12	29.
30.	Squash bush (2)	48	48	1	10	30.
31.	Squash trailing	96	48	1	10	31.
32.	Tomatoes staked (0)	36	24	-	-	32.
33.	Turnip	16	3	-	-	33.

NOTE: See REMARKS - Page 6

REFERENCE GUIDE FOR PLANTING VEGETABLE CROPS

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No.	Vegetable	Seeds or plants needed/100 ft.	Days for seed to germinate (11)	Germination temp. min.	Germination temp. best	No.
1.	Bean bush snap	3/4 lb.	6-10	55	75	1.
2.	Bean pole snap	1/4 lb.	6-10	55	75	2.
3.	Bean bush lima	3/4 lb.	6-10	60	75	3.
4.	Bean pole lima (2)	1/2 lb.	6-10	60	75	4.
5.	Beets	1 oz.	7-10	40	85	5.
6.	Broccoli (3)	1 pack	6-10	40	85	6.
7.	Brussels sprouts	1 pack	6-10	40	85	7.
8.	Cabbage (1)	70 plants	6-10	40	85	8.
9.	Carrots	1/4 oz.	10-15	40	85	9.
10.	Chinese cabbage	1 pack	-	40	75	10.
11.	Cauliflower (1)	70 plants	6-10	40	80	11.
12.	Corn sweet	1/4 lb.	8-10	50	85	12.
13.	Cucumber (2)	1/2 oz.	6-8	60	75	13.
14.	Collards (3)	1 pack	6-10	-	-	14.
15.	Chard Swiss	1 oz.	7-10	40	85	15.
16.	Eggplant	40 plants	10-14	60	85	16.
17.	Kale	1 pack	6-10	-	-	17.
18.	Kohlrabi	1/4 oz.	6-8	-	-	18.
19.	Lettuce leaf	1 pack	6-10	35	75	19.
20.	Lettuce head (1)	100 plants	-	35	75	20.
21.	Onion seed	3/4 oz.	8-12	35	80	21.
22.	Onion set (1)	1 qt.=400 sets	6-8	-	-	22.
23.	Peas dwarf early	1 lb.	6-10	40	75	23.
24.	Peas main crop	1 lb.	6-10	40	75	24.
25.	Pepper (1)	70 plants	10-14	60	85	25.
26.	Parsley	1/4 oz.	10-14	40	80	26.
27.	Radish					27.
28.	Rutabaga	1/4 oz.	4-7	40		28.
29.	Spinach	1/2 oz	6-12			
	Bush (2)	1/2	6-10			
	Ing		6-10			

Additional column headings for this reference guide include:

- *Days to harvest from field planting*
- *Amount for one person for one year (length of row in feet and expected yield in pounds)*
- *Soil pH*
- *Length of harvest in weeks*
- *Earliest safe planting field dates (Last killing frost April 20)*
- *Latest safe planting field dates (First killing frost October 20)*
- *Years to keep unused seed*
- *Method of culture (Classification)*
- *Resistance to frost (Classification)*

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FLOWER PRICING RECORD SHEET

Ornamental Horticulture

AREA OCCUPATIONAL EDUCATION CENTER

VERONA, N.Y.

C.S. Nutting

Name	Wholesale Cost	Shop Price BOCES	Retail Value

RATION BALANCING WORKSHEET

RATION BALANCING WORKSHEET

Date_____

NAME_____ ADDRESS_____

TABLE 1: Requirements of Cow

Body Weight_____ lbs. _____lbs. Milk _____% Fat

Estimated Dry matter intake:

	CP (lb)	NE_L (mcal)	Ca (lbs.)	P (lbs.)		
Maintenance						
Production						
Total						

TABLE 2: NUTRIENTS in DAILY ROUGHAGE FEEDING												
Forages	lbs. Fed	% DM	% DM	% CP	% CP	NE_L mcal	NE_L mcal	Ca %	Ca lbs.	P %	P lbs	
1.												
2.												
3.												
Total												

Needed in Grain (Subtract Table 2 totals from Table 1)

	CP lbs	NE_L mcal	Ca lbs.	P lbs.					
Required (Table 1)									
Supplied (Table 2)									
Required in Grain									

lbs. Grain Mix Daily $\overset{(DM)}{\dfrac{\text{meal } NE_L \text{ needed from grain}}{NE_L \text{ mcal in grain}}} =$

% protein required = $\dfrac{\text{lb. protein needed from grain}}{\text{lb. grain mix daily (DM)}} \times 100$

lbs. to feed = $\dfrac{\text{lbs. grain DM}}{\text{\% DM}} =$ [ ] 21

ENERGY CONVERSION FOR CONCENTRATES

TABLE III. Morrison feeding standards—*continued*.

	Digestible protein (Lower amounts, minimum advised. Higher amts., advised under usual conditions.)	Total digestible nutrients (Lower amounts, minimum advised. Higher amts., advised under usual cond	Net energy (Lower amounts, minimum advised. Higher amts., advised under usual conditions.)
	Lbs.		
D. Additional allowances for milking heifers (To be added to allowances for maintenance and for milk produced.)			
First lactation	.25–.30		
Second lactation	.13–.15		

TABLE III. Mor

	Dry matter	Digesti protei
	Lbs.	Lbs.
1. Growing beef cattle, fed for ... growth ... lbs.	7.2– 9.0	.67–
	9.1–11.4	.76–
	13.0	.81–
		.84–

NUTRIENTS REQUIRED FOR PRODUCING MILK IN ADDITION TO AMOUNT REQUIRED FOR MAINTENANCE

DAIRY SCIENCE, SECOND EDITION

TABLE II

Note: Use the nearest percentage of fat given.

Amount of Milk	Per Cent of Fat in Milk 3.0			Per Cent of Fat in Milk 3.5		
	Digestible Protein	Total Digestible Nutrients		Digestible Protein	Total Digestible Nutrients	
Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	
1	0.040	0.277	1			
5	0.201	1.386	5			
10	0.402	2.771	10			
20	0.804	5.542				
30	1.206					
40	1.608					
50						
60						

	Dr ma
	l
2. Growing dairy heifers	
Weight 60 lbs.	
Weight 100 lbs.	
Weight 150 lbs.	
Weight 200 lbs.	
Weight 300 lbs.	
Weight 400 lbs.	
Weight 500 lbs	
Weight 600 lb	
Weight 700 l	
Weight 800	
Weight 900	
Weight 1,00	
Weight 1,20	
3. Mature bulls, h service	
Weight	
Weight	
Weight	
Weigh	
Weig	
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V	

	Per Cent of Fat in Milk 5.5			Per Cent of Fat in Milk 6.0			Per Cent of Fat in Milk 6.5		
1	0.0548	0.4157	1	0.0573	0.4416	1	0.0618	0.4693	
5	0.274	2.079	5	0.287	2.208	5	0.309	2.347	
10	0.548	4.157	10	0.573	4.416	10	0.618	4.693	
15	0.822	6.236	15	0.860	6.624	15	0.927	7.040	
20	1.096	8.314	20	1.146	8.832	20	1.236	9.386	
25	1.370	10.393	25	1.433	11.040	25	1.545	11.733	
30	1.644	12.471	30	1.719	13.248	30	1.854	14.079	
40	2.192	16.628	40	2.292	17.664	40	2.472	18.772	

.282		
10.923		
14.564		
18.205		
	lbs.	18.9–21.7
	lbs.	20.0–23.0
	lbs.	21.0–24.0
ng 2-d cattle		
800 lbs.		19.6–22.2
900 lbs.		20.7–23.5
,000 lbs.		22.0–25.0
1,100 lbs.		24.0–27.0
1,200 lbs.		24.0–27.0
regnant ewes, until 4 to 6 wks. before lambing		
ight 100 lbs.		2.7– 3.4
eight 110 lbs.		3.0– 3.7

	15.0–17.6	1.18–1.32
	16.5–19.1	1.36–1.52
	17.8–20.4	1.52–1.68

STUDENT TASK SHEET — HORSE HANDLING AND CARE

Name _____

ORIENTATION	SAFETY	REVIEW STALL CLEANING AND CARE	REVIEW GROOMING
REVIEW HARNESSING CARE AND DRIVING	REVIEW 1st YEAR EQUIPMENT UNIT	REVIEW JOGGING	JOGGING EACH DATE
WORKING WITH WEANLINGS	WORKING WITH 2 YEAR OLD	CARING FOR HORSE TRAINING	IDENTIFICATION CONFORMATION FAULTS
CONFORMATION JUDGING	BITS	TIEING HORSE INTO JOG CART	BOOTS (TENDONS)
HOPPLES AND HANGERS	BOOTS (KNEE)	BOOTS (HIND)	SHADOW ROLL
BOOTS (SCELPERS)	BOOTS (BELL)	BOOTS (QUARTER)	TONGUE TIE
MURPHY BLIND	IDENTIFICATION OF VICE CORRECTION EQUIPMENT	PROBLEM HORSE EQUIPMENT	COLD WATER RAPS
COOLING OUT	BATHING	REVIEW GREASE	REVIEW PACK
BITING A YOUNG HORSE	RUBBER CROSS TIES	LINE DRIVING	HOOKING A SKID
KICKING STRAP	POULTICE BOOTS	4 RING OVER CHECK	GAITING STRAP

STUDENT TASK SHEET — HORSE HANDLING AND CARE

LINE AND POLL BURR	SIDE REINS	RUNNING AND STANDING MARTINGALE	TROTTING QUARTER BOOTS
HIND SHIN ANKLE AND SPEDDY CUT	HINGE QUARTER BOOT	SHIPPING BOOT	HIND ANKLE BOOTS
TALL TIE FOR MUD	MUD GUARDS	STAY UPS	BITNOSE STRAP
BLACKSMITH KNIFE	IDENTIFICATION BLACKSMITH EQUIPMENT	TOE WEIGHTS	PAD IDENTIFICATION
SHOES IDENTIFICATION	HOOF PARTS IDENTIFICATION	LEG PARTS IDENTIFICATION	FIGURE 8 NOSEBAND
2 YEAR OLD HANDLING LEGS AND FEET	HARNESSING	SIDELINES	COLD WATER WRAPS
REVIEW MEDICATION	LUNGING		

USE:

Purpose of the worksheets is that they teach class responsibility at the same time that students are learning to do individual tasks. Every student is expected to become competent in each area listed by class participation and outside observation and practice. Instructor must verify and check appropriate blanks to show that the student has acquired the necessary skills by the end of the semester.

SMALL ENGINE SERVICE REPORT

Name _____

Date: Engine No:

Make	Part:	Meas.	Orig.	Wear
Model	Exhaust Valve			
Serial No.	Intake Valve			
Approx. Age	Top ring			
Type	2nd ring			
Use	Oil ring			
Condition	Magnito journal			
Missing Parts	Crank journal			
Color	PTO journal			

Condition (✓)	Good	Fair	Poor	Replace	Top cylinder			
Spark Plug					Bottom cylinder			
Points & Condenser					Cylinder out of round			
Gaskets					Cylinder taper			
Oil Seals					Piston			
Flywheel					Ignition plunger			

What Parts are worn out? (measurement)

Describe work needed:

What parts need replacement?

What will you do to this engine? (justify)

Approx. Cost of Needed Parts: New: _____

Used: _____

Sign this report: _____ Total: _____

TRACTOR PRE-OPERATION CHECKLIST

TRACTOR # _____

		CHECK
1. Platform and Steps	Clean & free of grease	
2. Tool box	Hammer	
	Screwdriver	
	Pliers	
	Wrench set	
	Adjustable open end wrench	
	Rags	
3. Shields	Tight in place	
4. Tire air pressure	Pressures checked and are correct	
5. Lighting	All lights are working	
6. Engine Check		
A. Air cleaner	Free from dust and dirt	
B. Battery & Belts	Top of battery is clean	
	Proper fluid level	
	Terminals are clean and greased	
	Belts are free from cracks and are adjusted properly	
C. Cooling System	Proper fluid level	
	Hose free from leaks and cracks	
	Freezing temperature	
D. Dash lights & Gauges	All working properly	
E. Engine Oil	Proper level	
	Filter changed	
	Oil changed	
F. Fuel System	Free from leaks	
	Full fuel tank	
	Filter clean	

TRACTOR PRE-OPERATION CHECKLIST

G.	Grease Fittings	Greased according to owner's manual	
H.	Hydraulic fluid	Proper level	
7.	Seat Adjustment	Adjusted for safe operation	
8.	Safety switch	Operating properly	
9.	Steering	Working properly	
10.	Brakes	Working properly:	
		left	
		right	
		both	

Daily Check Performed by _____

Date _____

Hour Reading _____

Horsepower Reading Using Dynometer _____

Type of Oil Used _____

FFA CONSERVATION CHECKLIST

The following are some things you can do to lower your energy bills

		Yes	No	Does not Apply
1.	Are the walls of your home adequately insulated?	___	___	_____
2.	Is the ceiling of your home adequately insulated?	___	___	_____
3.	Are the floors over unheated spaces insulated?	___	___	_____
4.	Do you block off heat to unused rooms?	___	___	_____
5.	Do you turn the thermostat down at night?	___	___	_____
6.	Are tight fitting storm windows and doors installed on all openings?	___	___	_____
7.	Have you caulked around doors, windows, etc?	___	___	_____
8.	Do you turn off electrical fixtures and appliances when leaving a room?	___	___	_____
9.	Have you turned your water heater thermostat down?	___	___	_____
10.	Are furnaces and chimneys cleaned and serviced annually?	___	___	_____
11.	Are any space heaters set level and out of the way of traffic?	___	___	_____

The following questions apply to wood burning heat sources

12.	Are chimneys properly installed?	___	___	_____
13.	Do you burn only seasoned wood?	___	___	_____
14.	Do you check for creosote buildup regularly?	___	___	_____
15.	Is a sturdy screen used before open fires?	___	___	_____
16.	Is your fireplace equipped with glass doors?	___	___	_____
17.	Do you close the damper when not using your fireplace?	___	___	_____
18.	Do you have a blower of some kind to circulate warm air?	___	___	_____

TOOL CHECK OUT

The following form is a sample of a classroom check list to be completed by both a student tool room manager and by the classroom teacher. The form can be used for controlling tool check-in and check-out when completing carpentry projects.

Project: Hand Tool Box

Purpose: Using the pattern provided by the teacher, construct your individual hand tool box.

*Equipment Carpenter's Hammer, straight edge, handsaw, brace and bit, rule

OUT	IN
Date _____	Date _____
Tool Manager _____ Signature	Tool Manager _____ Signature

Materials: Finishing Nails
Exterior Plywood
1" x 2" Fir
Wooden Dowel

Method:

Provided by instructor

For Instructor's Use Do Not Write Below This Line

Evaluation:

Completed ___(check only if all equipment has been returned)

Comments:

**The tool manager is responsible to sign all equipment in and out*

WELDING OPERATIONS CHECK SHEET

Flat	set correct Amps		Overhead	bead	
	strike and hold arc			fillet,single pass	
	run stringer bead			butt, square	
	restart continuous bead		Pipe	roll butt	
	weave bead			vertical down butt	
	padding			ell joint	
	square butt weld			tee joint	
	vee butt weld			orange peel closing	
	lap weld		Misc.	sheet metal 16ga +	
	single pass fillet weld			high carbon or alloy	
	multiple pass (3) fillet weld			carbon arc torch	
	corner weld			cast iron	
	edge weld			hard surface	
	box weld			cut pattern with torch	
Horizontal	bead			repair project	
	multiple pass (3) fillet			construction project	
	square butt		Safety	arc welder	
	vee butt			start and stop torch safety	
Vertical Down	bead			grinder safety	
	fillet single pass			eye safety	
	butt, square			other shop and student safety	
Vertical Up	bead		Quizzes	1	
	multiple pass fillet			2	
	vee butt			3	

SHOP MANAGEMENT

Goal: Students take major responsibility in daily shop clean-up under supervision of a student foreman.

Guidelines:

1. Areas of shop that require daily clean-up are identified and check lists are produced to be used daily with students.
2. Student foremen are appointed weekly to each class; it becomes their responsibility to complete the daily check lists indicating that shop tools and equipment have been returned to their proper storage areas.
3. Foreman gives the "ok" on whether the students can clean up - only after the shop areas are picked up.
4. Every student has to be the foreman at least once - this gives them each a chance to be "in charge".
5. Teacher has the final say in the process and the foreman reports to the teacher.

Example of items on the foreman's checklist:

Welding Area:

	Yes	No
1. Torches hung up	___	___
2. Welders off	___	___
3. Cables coiled	___	___
4. Floor swept	___	___

790

SHOP EQUIPMENT SAFETY TESTS

1. Shop equipment safety tests are given to each student (could be:)
   a. a test developed for each major piece of shop equipment
   b. a general shop operations or procedures test
   c. a test on use of fire extinguishers
   d. a test on first aid practices
2. Each student sign: the completed and scored test form
3. Each signed test is filed (for insurance purposes)
4. Students seem more aware of procedures and shop safety

WORK INCENTIVE SUGGESTIONS

900/01

Everyone needs incentives built-into their working programs and students are no exception! Here are suggestions of incentives that can be included in a classroom work program:

- Paying students by good grades
- Providing valuable experience
- Allowing each student his/or her turn for hands-on experience
- Encouraging group participation to teach leadership
- Teaching students that "good work habits" should not change after school is over.

900
06

OCCUPATIONS STUDY WORKSHEET

Name _____

Occupational Title:

Salary Range:
Working Conditions:

Hours:
Days per week:

Advantages of this work:
1.
2.
3.
4.
5.

Disadvantages of this work:
1.
2.
3.
4.
5.

Educational Requirements:

Health and/or Physical Require:

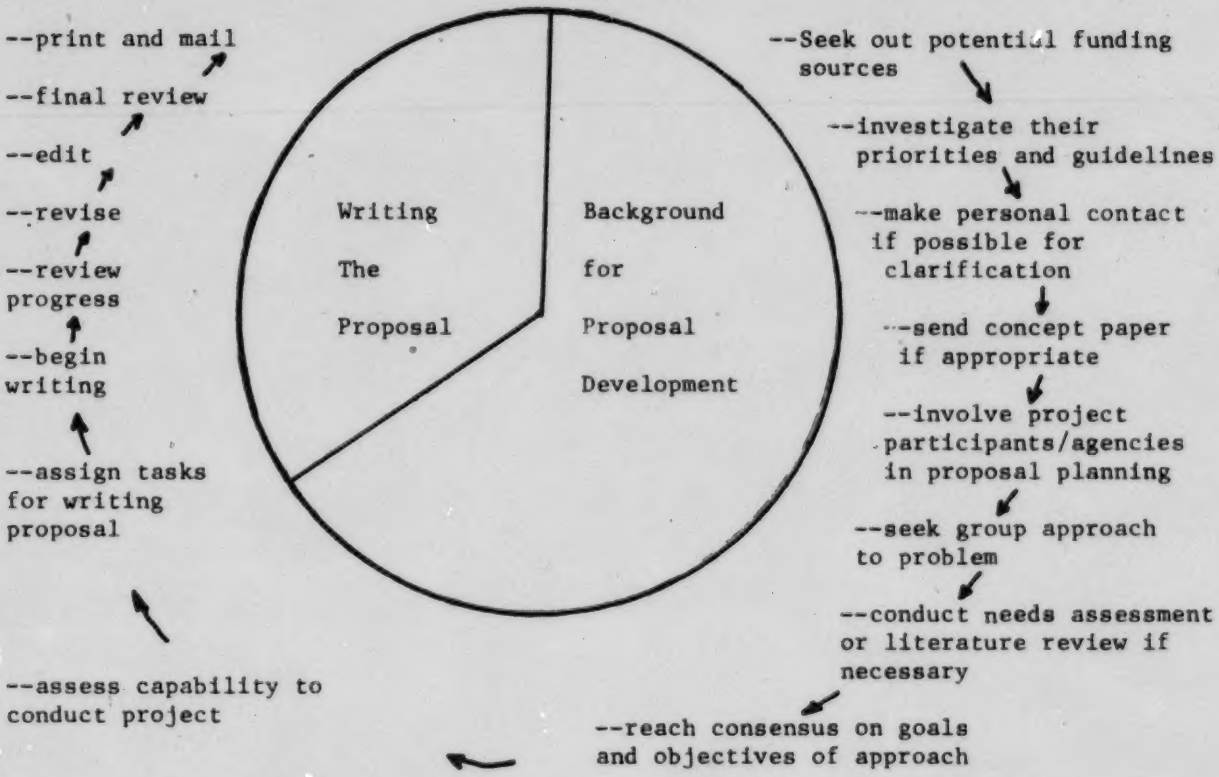
Is an investment required on your part?
If so, how much?
And for what?

What is the availability of jobs of this kind?

Do you still think you would like this kind of work?
Why?

WRITING GRANTS

The Proposal Development Pie


--print and mail
--final review
--edit
--revise
--review progress
--begin writing
--assign tasks for writing proposal
--assess capability to conduct project
Writing The Proposal
Background for Proposal Development
--Seek out potential funding sources
--investigate their priorities and guidelines
--make personal contact if possible for clarification
--send concept paper if appropriate
--involve project participants/agencies in proposal planning
--seek group approach to problem
--conduct needs assessment or literature review if necessary
--reach consensus on goals and objectives of approach

CHECKLIST FOR STATEMENT OF GOALS, OBJECTIVES AND ACTIVITIES

___1. Are there one or more goals that reflect the need for the project and show clearly its purpose and direction?

___2. Is there at least one objective for each need or problem committed to in the needs/problem statement?

___3. Are the objectives realistic and appropriate?

___4. Are the objectives stated in terms of outcomes and not in terms of methods or activities?

___5. Do the objectives describe the population that will benefit?

___6. Do the objectives state the time by which they will be accomplished?

___7. Do the objectives describe the outcomes of the project in measureable terms?

___8. Do the activity statements show how the objective will be put into operation and accomplished?

KEY ELEMENTS IN DEVELOPING A FUNDABLE GRANT PROPOSAL

Before Starting to Write

1.1 Arrive at a viable idea
(brainstorming, feasibility determination, eligibility evaluation)

1.2 Review alternative funding sources
(federal, state, local, private)

1.3 Understand the politics of grants
(local, state, regional networks of information, geographical considerations, agency priorities, and available funds)

As You Begin to Write

2.1 Develop a statement of need
(defining problems, finding supporting evidence)

2.2 Define and develop goals and objectives
(know what you want to accomplish with the project)

2.3 Outline talks and activities in the plan of action/research
(delineate the work that must be done, anticipate problems which may alter the plan)

2.4 Develop a budget
(identify expenses, understand budget categories, prepare a rationale for each item -- tie to proposal narrative)

2.5 Design an evaluation plan
(questionnaires, tests and measures, formative and summative evaluation, building in accountability)

2.6 Develop a management plan
(figuring out time schedules, recruiting staff, working within an institutional framework)

2.7 Prepare required forms and abstract
(comply with agency guidelines and instructions and make abstract sell the project idea)

When You Are Finished Writing

3.1 Cope with the grant review process
(evaluation of the grant, answering questions, revising budgets, negotiating)

3.2 Rewrite and resubmit a rejected proposal
(write for reviewers' comments and use them to rewrite proposal)

"BLUES" CHASERS

.20/00

Ideas to get over the "blues" in teaching

1. Clean shop/classroom, outside, etc. with students
2. Cut firewood
3. Visit another person's program
4. Visit an industry or farm
5. Visit kids' homes or farms
6. Attend meetings for Ag Teachers
7. Psyche yourself up
8. Take time out (45 minutes) to talk to your students

FOOD FOR AMERICA IDEAS

.50/30

1. Invite kindergarten or gradeschool classes to Ag room
2. Give each student a coloring book about agriculture
3. Show "Food for America" movie
4. Give them home made ice cream
5. Have young animals available - have a petting zoo
6. FFA members dress up as clowns
7. Members represent animals, fruits, or vegetables
8. Members give a short presentation about their program
9. Have tractors and farm equipment available

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TEACHING PLAN REPORT

UNIT NO.____TITLE:_____

TEACHER:_____AGRICULTURE CLASS:

DATE STARTED: A_____ B_____ C_____ COMPLETED: A_____ B_____ C_____ NET TOTAL DAYS: A_____ B_____ C_____

TEXT:_____

SLIDES & FILMSTRIPS:_____

BULLETINS, CLASS SETS:_____

OTHER RESOURCE MATERIALS:_____

I. AIMS AND OBJECTIVES:_____

II. TEACHING PLAN:_____

III. HOMEWORK ASSIGNMENTS:_____

IV. REMARKS:_____

DAILY GRADING SHEET

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Date:

CLASS	GRADES				
STUDENTS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY

DAILY LOG SHEET

.30/40

Name_____

Section_____

DAILY LOG	BREAK TIME	STANDBY TIME	WORK TIME
MONDAY			
TUESDAY			
WEDNESDAY			
THURSDAY			
FRIDAY			
39 TOTAL TIME			

STUDENT TIME SHEET

1. Students are given the opportunity to complete a daily job sheet by listing the tasks that they have completed for the day.

2. The teacher reviews the sheets and assigns a daily grade to each student. A point system can be as follows:

   20 points = 100%
   19 points = 95%
   18 points = 90%
   17 points = 85%
   ⋮
   10 points = 50%

3. At end of each week the daily grades are averaged to get a weekly student work average.

4. The weekly averages are added together for each 10 week marking period to help formulate students' work grade.

EXAMPLE OF A TIME SHEET:

Student's Name: _____

Day	Date	Work Description	Grade	Weekly Average
Mon				
Tues				
Wed				
Thurs				
Fri				
Mon				
Tues				
Wed				
Thurs				
Fri				

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45

EXTRA CREDIT ACTIVITIES SUMMARY

I. SUPERVISED OCCUPATIONAL EXPERIENCE PROGRAM

1) Total hours worked this marking period _____
(include record sheets)

2) List duties and/or responsibilities in your program:

3) Personal ownership of project: Animals, crops, etc.
(include receipt and expense sheets and financial statement)

4) Hours worked on school farm _____
(include record sheets)

II. LEADERSHIP ACTIVITIES

1) Office held _____
Duties of office performed this marking period

2) What committees did you serve on this marking period?

When did they meet?

What was accomplished?

3) Leadership teams (forum, chapter meeting, dairy judging, small engine, etc.)

4) List degrees earned this marking period

5) List other leadership activities in which you participated:

III. SERVICE ACTIVITIES

1) Sales (fruit, cheese, other)

Total amount sold $_____

Total dollars turned in $_____

2) Concessions

Dates Worked	Hours Each Day

41

.30/45

EXTRA CREDIT ACTIVITIES SUMMARY

3) Other (list)

4) Extra duties performed in Ag. Dept.
(Shop clean-up, engine work, etc.)

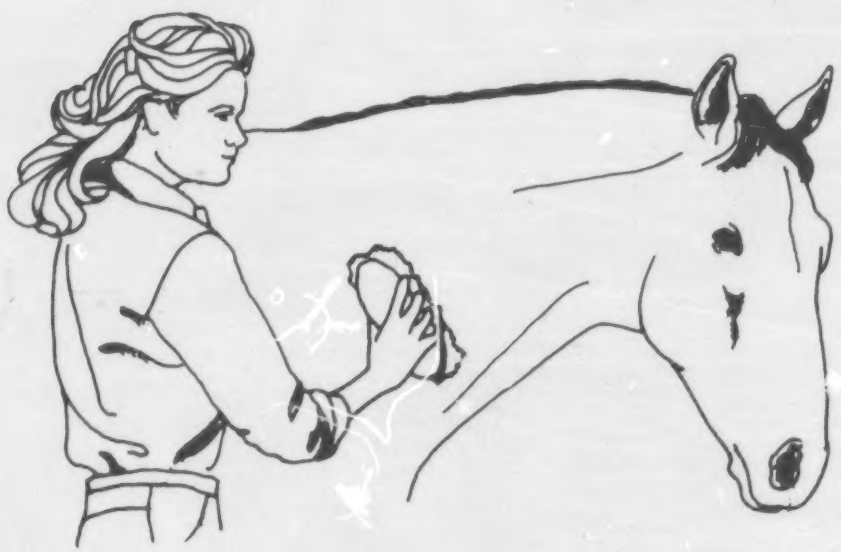
Dates Worked	Hours/Day

Marking Period Grade Earned from Classwork _____

Plus: Extra Credit Points + _____

_____

Marking Period Grade [ ]



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WORK EXPERIENCE AND WORK OBSERVATION

Realizing that jobs in agriculture are often seasonal and performed outside, it is not always possible or desirable to duplicate these jobs in a classroom or shop setting. Work experience programs allow the instructor and students the flexibility to supplement classroom and shop instruction with actual on-site working conditions. This can help students determine their careers and it can also reinforce instruction received.

Selection:

Students whose career goals require work experience will meet with instructors to plan their work programs. Considerations will be given to student grades, attitudes, attendance and career goals. It is important that guidance counselors are consulted in this process. The instructors will have the option to terminate individual's work experience program if the student does not fulfill his obligations to the school or employer.

Job Site and Site Visits:

The work experience site will require periodic visits by instructors. The purpose of these visits are multi-purpose. It will give the instructors a chance to check the work site to see that it is reasonably safe and no hazardous conditions or OSHA violations exist. The visit will also allow the instructor to determine whether the student is engaged in a meaningful work program. Site visitations will allow the instructor to determine whether shop and classroom instruction need to be changed, upgraded or supplemented so that students are more productive. Visits will allow the instructors a chance to evaluate the student with employers input.

Additional sections include:

- Evaluation
- Work Observation
- Minimum Wage
- Hazardous Occupations Exemption
- Pesticide Certification
- Tax Incentive for Employing students on Cooperative Work Experience

Also note the forms on pages 29 and 30

(Work Experience Agreement)

(Employee Evaluation Sheet)

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WORK EXPERIENCE AGREEMENT

I,_____ agree to hire_____
(employer) (student)

as a work experience trainee. _____ shall be under my supervision and responsibility while out of school, assigned to me. Mr. Spaeth and/or Mr. Krause, teachers of agriculture at Letchworth High School are to help me arrive at a schedule of activities that will constitute the work experience program. I also understand that the program may be revoked if the students involved are habitually tardy either to the job or to the school. I agree to investigate and comply with any and all insurance requirements as they apply to my place of business.

Signed: Date:

Employer _____

Parent _____

Student _____

Principal _____

Teacher _____

Assigned Hours:

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

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EMPLOYEE EVALUATION SHEET

NAME _____ MONTH _____

POSITION _____ RATING _____

WORK HABITS:

1. Skill and Accuracy _____
2. Efficient Use of Time _____
3. Work Area Neat and Orderly _____
4. Accepts Responsibility _____
5. Interest in Work _____
6. Punctuality _____

PERSONAL AND PUBLIC RELATIONS:

7. Relationship with Customers and Manufacturer _____
8. Personal Appearance _____
9. Enthusiasm _____
10. Attitude Toward Job and Company _____

APTITUDE AND ABILITY:

11. Attends Company, Manufacturer School and Professional Meetings _____
12. Self Education _____
13. Ability to Learn _____
14. Follows Instructions _____

DEPENDABILITY AND JUDGEMENT:

15. Cooperation _____
16. Loyalty to Employer _____
17. Uses Good Sound Judgement _____

COMMENTS: _____

_____

_____

RATING:

9		6		2	
8	Excellent	5	Average	1	Poor
7		4			
		3			

OWNER/MANAGER _____ Date _____

INSTRUCTOR _____ Date _____

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GUIDE FOR AG EXPERIENCE CREDIT

Guide for Ag Experience Program Approved Credit Hours. Total hours must be recorded with all support records completed. Approved hours will be adjusted according to skill rating and scope of skill development.

Skill or Learning	Base Hours Accepted	% Over Base Accepted
Chopper Operation	5 hours	10%
Drilling grain	10	10
Tractor maintenance	10	20
Raising calves (complete responsibility)	50	20
General barn chores	10	10
Machine repair and maintenance	50	20
Showing animals	20	20
Auction preparation		50
Bailing (Per type)	10	20
Operating chain saw	10	10
Fixing Fence	10	20
Hauling and Stacking hay	10	10
Milking cows	50 (25 for second type)	10
Plowing (per type)	10	10
Fitting ground	5	10
Washing milk tools, lines, etc.	10	10
Clipping Cattle	10	10
Trapping	30	20
Record Keeping	10	10
Treating sick animals	10	20
Detecting animals in heat	20	10
Milk Testing (Schain)	10	10
Ag Business - Based on responsibilities	up to 100	10 - 20

RECORD OF AG EXPERIENCE PROGRAM ACCOMPLISHMENTS

NAME _____ COURSE _____ AGE _____

TYPE AND PLACE OF EXPERIENCE PROGRAM _____

Agr. skill or learning	Rating	Rated by	Date	Description of experiences leading to skill or learning. (Include hours)	Credit hr. Approved

Ratings:

1. Observed others doing the job.
2. Has done the job, but needs constant supervision.
3. Is capable of doing the job alone, but needs some supervision.
4. Is capable of doing the job alone.
5. Excells in the skill.

SOE PROGRAM SUPERVISION RECORD

Name of Student: _____ Age: _____

Year in School: _____ Parent's Name: _____

Parent's Address: _____ Tele: ( )

Acres Owned: _____ Acres Rented: _____ Major Enterprises: _____

Career Goal: _____

SOE Program: _____

Date of Visit	Improvements Made	Recommendations, Other Observations

Continued over

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21

MEMBER'S THRIFT ACCOUNT STATEMENT

Name _____ Letchworth FFA

Date	Use or Source	Withdrawal	Deposit	Balance
1/4/80	Dues	$4.75		- $4.75
9/2/80	Cheese Sales	--	$20.00	15.25
1/13/80	Fruit Sale		40.00	55.25
12/1/80	FFA Jacket	$22.50		32.75
3/30/80	FFA Convention	30.00		2.75

Note: 1/2 of profit on all sales activities go in this student account. Student must obtain 10 squares on activity chart (see page 35) before money may be used by student.

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FFA MEMBERSHIP/ACTIVITIES RECORD

Items used to show participation in activity:

1. Meetings
2. Alfred tour
3. Veg. seeds
4. Cheese sale
5. Top 12 individuals State Fair
6. State Fair team
7. Top 3 state fair
8. Pike fair team
9. Top 3 fair contest
10. Oswegatchie Camp
11. Subdistrict meeting
12. Land Lab work
13. Fall contest
14. Top 3 Fall contest
15. Corn Sale
16. Corn sale plus 10 bags
17. Chairman for committee
18. Fruit sales
19. Fruit sales over ten boxes
20. Committee member
21. Top 3 salesmen for fruit
22. 80% average every ten weeks
23. 90% average every ten weeks (Ag class
24. For a degree
25. Tool Sale
26. Small Engine Repair
27. Tractor
28. Dues
29. Working after school
30. Creed
31. Popcorn
32. Kansas City
33. Seeds
34. Seeds over $100
35. Fair Ads
36. Sale of hay

A chart can be used to visually show each member's progress or level of activity:

Student	Place number of activity in blocks
1. Steve Miller	1 10 15 32 2
2. Nancy Carr	1 15 2
3. Bob Jones	10 1 36 2

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FFA ACTIVITY CONTEST

LOWVILLE FFA ACTIVITY CONTEST

RULES:

Participation in the contest shall be limited to those enrolled in vocational agriculture, carrying on satisfactory programs of supervised farming and/or active FFA members with dues paid.

All claims for points must be filed by the 20th of May. Awards will be made at the annual FFA banquet.

Any member who fails to earn at least 1000 points distributed over 3 sections on the score sheet shall not be eligible to vote or hold office at the annual elections for the coming year.

Requirements for awards:

15,000 points - letter
20,000 points - pin
25,000 points - plaque
30,000 points - trophy

Special Award: A special award will be given to the Junior or Senior who has the highest total for the year.

Junior High Members: An award will be given to the Junior High member with the highest total for the year.

This contest is planned to encourage a more active FFA Chapter and more outstanding participation in school and community activities by FFA members.

Page 37 is the first page of a 4 1/2 page listing of activities and points.
Sections not reproduced include:

III. FFA Degrees
IV. Scholarship
V. Leadership Contests
VI. Dekalb Award
VII. Exhibiting
VIII. Judging & Demonstration
IX. News and Publicity
X. School and Community.
XI. Home Farming Progress
XII. Athletics
XIII. FFA Activities

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FFA ACTIVITY CONTEST

Name _____ First Year in FFA 19___

I. FINANCING	amount	total
A. Profit raised by members		
Farm Journal sales 50 pts./subsc.	_____	_____
Citrus sale 50 pts./box sold	_____	_____
Citrus Delivery 100 pts./hour	_____	_____
Popcorn sales 100 pts./hour	_____	_____
B. For the suggestion, adoption and use of an original method of fund raising 300 pts.	_____	_____
C. Payment of dues 100 pts.	_____	_____
II. Meetings - local, county, state, national		
A. Learning an officer's part for a regular meeting 100 pts.	_____	_____
B. Attendance at each local meeting 200 pts.	_____	_____
C. Official dress at meetings 200 pts.	_____	_____
D. Attendance at state meeting 700 pts.	_____	_____
E. Attendance at county meeting 500 pts.	_____	_____
F. Attendance at any meeting sponsored by an agricultural group other than FFA 100 pts.	_____	_____
G. County delegate attending meeting 700 pts.	_____	_____
H. State delegate attending meeting 800 pts.	_____	_____
I. In state band 500 pts.	_____	_____
J. In state chorus 500 pts.	_____	_____
K. In National band or chorus 1000 pts.	_____	_____
L. Attending National Convention 1000 pts.	_____	_____
M. Chapter Officer 1000 pts.	_____	_____
N. Sub-District Officer 2000 pts.	_____	_____
O. State Officer 2000 pts.	_____	_____

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FFA ACTIVITY POINTS

Name _____

Request for Points:

_____ Attend meeting in official dress - 25 pts.

_____ Attend meeting with jacket (only) 20 pts.

_____ Attend meeting (10 pts.)

_____ Participated in committee meeting (25 pts.)

_____ Acted as replacement officer (10 pts.)

_____ Fund raising - 50¢ = 10 pts. _____ pts.

_____ Contests _____ pts.

_____ Other: (Describe & give points)

Procedure for Using Form

1. These sheets are filled out by each student.
2. Then they are stapled to committee reports.
3. Then they are checked for accuracy.
4. They are put on large points charts on classroom walls by student advisor.
5. Students need 350 pts. to go on trips.
6. Students need 100 pts. to get awards, etc.
7. After points are reported the sheet goes in each student's files for later use on records. This eliminates teacher bias.

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ALTERNATE ENERGY AND CONSERVATION

Course Outline: Alternate Energy and Energy Conservation

1. Introduction to concepts in energy
2. Alternate energy sources
3. Energy conservation
4. Active solar energy
5. Passive solar energy
6. Wood as an energy source
7. Wind power
8. Nuclear power
9. Biogas
10. Coal gasification
11. Hydrogen fusion
12. Hydroelectric power
13. Individual demonstrations and projects
14. Gasohol/Alcohol

*Suggested time allotment: 5 class days

allow 2-3 days following this to permit students to apply knowledge learned to their own home

Suggested References and Resources:

Cooperative Extension Publications	"Save Energy Save Dollars"
U.S. Dept. of Energy Education Programs Division Washington, DC	"Agriculture Energy in Society" "Energy in the Global Market Place" "How a Bill Becomes a Law to Conserve Energy"
Mother Earth News Henderson, NC	Making Alcohol Fuel Handbook of Homemade Power
J.Shelton, VT Crossroads Press	Woodburners' Encyclopedia
Dermont McGuigan(author) Gardenway Publishers	Harnising Waterpower for Home Energy Harnising Windpower for Home Energy
NYS Energy Office Agency Bldg #2, Empire State Plaza Albany, NY	"How To Save Energy and Money in Your Home" (publications 1 and 2)

INDEPENDENT LESSONS

900
01

Rules of operation:

1. Only one lesson may be taken by the student at any time.

2. The student may work on any lesson as long as he/she chooses but the designated number of lessons must be completed each marking period.

3. Lesson outlines must be completed in blue or black ink only.

4. Lesson tests must be completed without the use of notes or other aids. The test must be completed and returned within the same class period it was given.

5. Until you prove otherwise, I assume you are honest and will use these lessons in the manner intended whether expressed here in writing or not.

Marking system:

1. All lessons will be marked on a 100 point basis.

2. The break down of the marking is as follows:

   10 points for the correct completion of the lesson outline;

   10 points for neatness in the completion of the outline:

   - 10 points if typed (reasonably error free)
   - 7 points-very neat printing or longhand or poor typing
   - 5 points-neat printing or longhand
   - 3 points-poor printing or longhand
   - 1 point-readable printing or long hand; The student will also receive a warning that his or her work may not be accepted again if the neatness is not improved.
   - 0 points-the outline is incomplete or not readable and will be returned to the student for improvement before the test can be completed.

   80 points for the lesson test: (All tests will be five question multiple choice tests.)

   - 80 points - 5 correct answers
   - 70 points - 4 correct answers
   - 60 points - 3 correct answers
   - 50 points - 2 correct answers
   - 40 points - 1 correct answer
   - 0 points - 0 correct answers

Materials are designed to provide individual instruction in and general exposure to the various occupational and subject areas in the field of agriculture. The lessons also require the student to learn to budget time, work independently, and develop their self interests.

FARM MANAGEMENT OUTLINE — FIELD TRIP GUIDE

.30/34

Farm of: _____ Date Visited: _____

A. 1) Situation

Family
General layout
Upkeep
Total investment
Total investment/man
Total investment/cow

2) Management

Type of business arrangement
Evidence of estate planning
Manager:
Education Experience
Attitude toward business
Continuing knowledge
Knowledge of his/her business
Goals (Business)
Short term Long term
Goals (Personal)
Short term Long term

B. INFORMATIONAL SYSTEM

1) Who keeps financial records?
2) Type of records?
3) Type of tax planning?
4) Is tax advice obtained?

C. CROPPING PROGRAM

1) Total acres (Condition of land)
2) Tillable acres
3) Crops:

Crop	Acres	Intended use

4) Conservation methods used:
5) Is there a long range cropping plan?
6) Has a soil test been taken recently?
7) Who gives farmer crop advice?
8) Are accurate records kept which note yields, pesticides used, seeding rates etc.?

D. DAIRY

1) Statistics

Number of cows_____
Number of calves_____
Number of heifers _____
Herd average _____
Total milk sold _____
Milk sold/man _____
Calving interval _____
Percent of herd registered _____%

2) Are DIHC records used effectively?
3) Breeding
A) Is a bull used? If so, in what circumstances?

B) Where is semen purchased?
C) Is any special heat detection method used?
D) What is the heat detection schedule?

4) Herd health
   A) Relationship with vet
   B) Vaccination programs

5) Feeding
   A) Diet for lactating cows
   B) Diet for dry cows
   C) Feeding system
   D) Feed Storage

6) Heifers & Calves (replacements) number yearlings _____
number of calves _____
   A) Housing:
   B) Diet: Heifers_____ Calves _____
   C) Health Care Practices
      1. Are calves fed colostrum? How soon?
      2. Are calves navels dipped?
      3. Are calves vaccinated? For what?

7) Milking:
   A) Mastitis prevention program
   B) Milking system
   C) Who milks?
   D) What is the milking schedule?
      Is the schedule strictly adhered to?

VI Machinery

1. Machinery owned:
   New: Used:
2. Machinery leased:
3. Is there adequate machinery storage space?
4. Is there adequate shop space?

VII Labor Force Part time & Full time

Family labor:
  Unpaid:
  Paid:
Hired Labor:
Total man work units for farm _____

VIII Farmer's Self Evaluation
1. Strong points
2. Weak points

IX Overall Evaluation
1. Is farm meeting goals?
2. Where could he/she improve?
3. What are strong points?

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10

RECRUITING FFA MEMBERS

I. PRINTED MATERIALS

A. Fact Sheets

B. Promotion Literature

C. News Letter

II. PERSONAL CONTACT

A. Summer Activities

B. Special Meetings

C. FFA Members become recruiters

III. PUBLICITY

A. Slide Program of Activities

B. Display of Projects

C. Bulletin Board & News Articles

IV. BUILD OBJECTIVES

A. Exciting

B. Relevant

C. Professional & Friendly

COMMUNITY DEVELOPMENT

BOAC - Building Our American Community

An FFA activity as the result of class instruction on community development. The ideas for BOAC projects come from the community resources recognized by the chapter in studying their community.

Teaching Community Development

Units

1. Defining Community

   Objectives:
   1. Describe boundaries of a community
   2. Determine the groups in a community
   3. Determine the occupations of people in a community
   4. Identify the many communities of which each pupil is a member
   5. Identify people who "make things happen" in a community

   Techniques:
   1. Split class into groups of 4-5, give them a magic marker and large sheet of paper - Group draw a part of the community one person at a time. Then identify what makes up a community.
   2. Give a test on boundaries of a community-discuss answers.
   3. Complete performance checklist.
   4. Use resource people in the community to define the community.

2. Identifying Community Needs

   Objectives:
   1. Identify the good features and those that need improving in the community.
   2. Determine how other people view the community - the common problems.

   Techniques:
   1. Grade the community - fill out community score card.
   2. Four approaches to needs assessment
      a) Attitude survey interview
         face to face interview
         telephone interview
         mailed questionnaires

         Discuss in terms of:
         1 - cost
         2 - time needed
         3 - rate of refusal
         4 - training required
      b) Key - Informant approach - Identify key informants community
      c) Public forum approach
      d) Social indicators approach
         federal reports, statistical abstracts, state reports
   3. Conduct "pre-inventory" exercise
   4. Group discussion - select an approach for collecting information

3. Selecting Community Development Activities

   Objectives:
   1. Analyze various methods of decision making
   2. Agree on a method which gets most members involved
   3. Obtain consensus in selected chapter projects

Techniques:
1. Discuss methods
   a) Teacher decides
   b) The will of a few people
   c) Majority Vote
   d) Consensus
2. Exercise in consensus decision making-group activity

4. Gathering and Analyzing Information

Objectives: To identify techniques for collecting, analyzing and reporting information about community problems.

Techniques:
1. Discuss handout fact or opinion handout
2. Discuss ways of getting information: resource people, interviews, tours, research
3. Test the quality of the information: reliable, relevant, valid, accurate, believable, supporting data
4. Discuss advantages and disadvantages of reporting all information.

5. Organizing for Action

Objectives:
1. To develop the ability to design a plan of action for a project.
2. To get key individuals and groups, as well as citizens-at-large, to accept and support the project.

Techniques:
1. Develop a plan which is presented to chapter for amendment and approval.
2. Identify impact groups affect and how
3. Identify support persons and groups
4. Mobilize needed resources (money, facilities, labor)
5. Keep all groups and citizens informed of progress
6. Use strategy check sheet for getting project support.

6. Evaluating the Results

Objectives: To determine your effectiveness in conducting a community development project.

Techniques:
1. Discuss criteria students consider important in determining "success" of a project - develop an attitude survey
   a) Process evaluations (warm seat, "happiness index")
   b) Product evaluations (meet your goals, did your goals account for changes in attitude)
2. Discuss ideal community - invite persons knowledgeable of the community to speak to the class about the community development project.
   How has the community changed?

The series of outlines and overhead transparency masters that follow (pages 44-54) are part of the workshop materials produced by a special USDA grant to the FFA for Community Development. The workshops were "Community Development in Vo Ag-FFA Programs" and "Plans for Training Professionals in Community Development."

IDENTIFYING COMMUNITY NEEDS

COMMUNITY SCORE CARD*
(HOW DO YOU "GRADE" YOUR COMMUNITY?)[1]

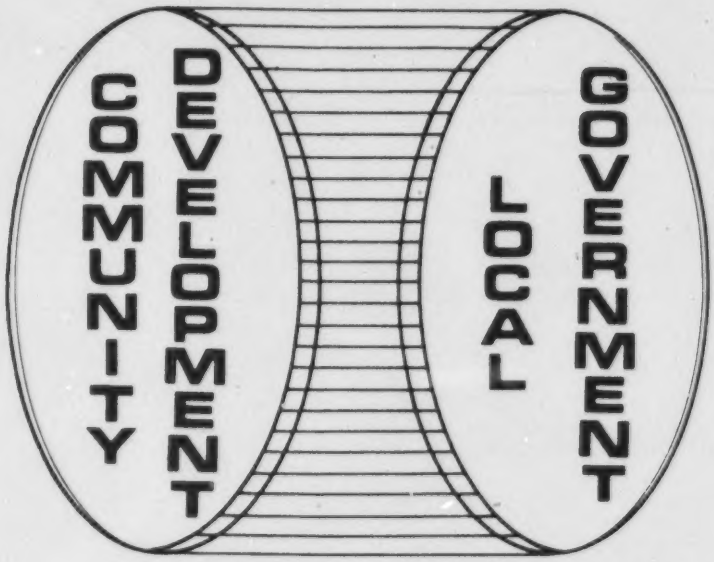
1.	Agriculture	1 2 3	19.	Security - law enforcement	1 2 3
2.	Industry	1 2 3	20.	Sewage disposal systems	1 2 3
3.	Other sources of family income	1 2 3	21.	Water supply systems	1 2 3
4.	Motels, hotels & tourist attractions	1 2 3	22.	Solid waste disposal	1 2 3
5.	Small business - retail sales & service	1 2 3	23.	Fire control	1 2 3
6.	Sources of credit	1 2 3	24.	Flood control	1 2 3
7.	Job training & retraining	1 2 3	25.	Public buildings	1 2 3
8.	General education - primary & secondary	1 2 3	26.	Hospitals & clinics	1 2 3
9.	Vocational education	1 2 3	27.	Homes for the aged	1 2 3
10.	College or business school access	1 2 3	28.	Parks & playgrounds	1 2 3
11.	School equipment, staff & curriculum	1 2 3	29.	Transportation - highways & railways	1 2 3
12.	Public libraries	1 2 3	30.	Community beautification - general appearance of roads, parks, streets	1 2 3
13.	Community organizations	1 2 3	31.	Conservation - soil, water, minerals & timber	1 2 3
14.	Community planning, zoning, etc.	1 2 3	32.	Quality environment - land, air, water	1 2 3
15.	Housing - public & private	1 2 3	33.	Local government - revenue & budget	1 2 3
16.	Family living conditions	1 2 3	34.	Cultural arts	1 2 3
17.	Recreational opportunities for all ages	1 2 3			
18.	Churches	1 2 3			

* 1 = Poor 2 = Fair 3 = Good

([1]Developed by Mike Duff, Development Programs, University of Kentucky, College of Agriculture)

COMMUNITY DEVELOPMENT AND GOVERNMENT

Local, County, State and National governments are inseparably a part of the Community Development process.



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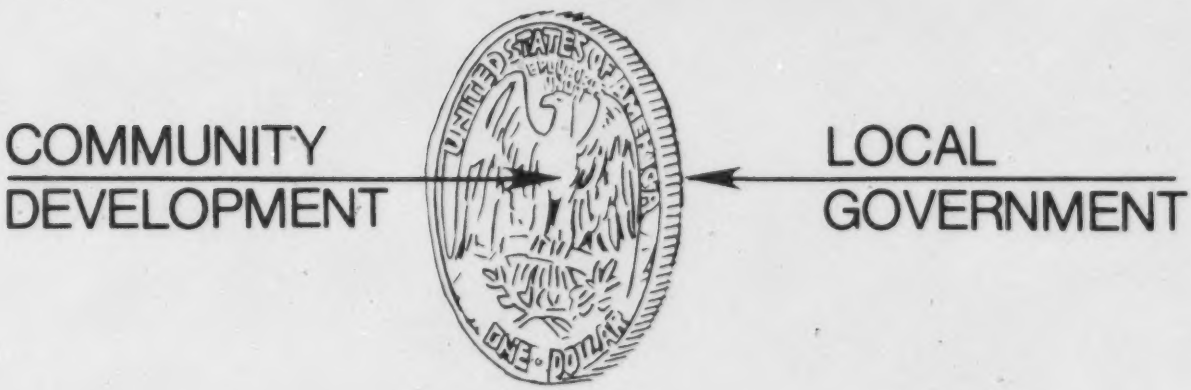

Each concept must be seen as part of the whole. Community development is a process that is essential to effective government. Government is an institutional means by which a community provides essential services.

POPULATION PYRAMID

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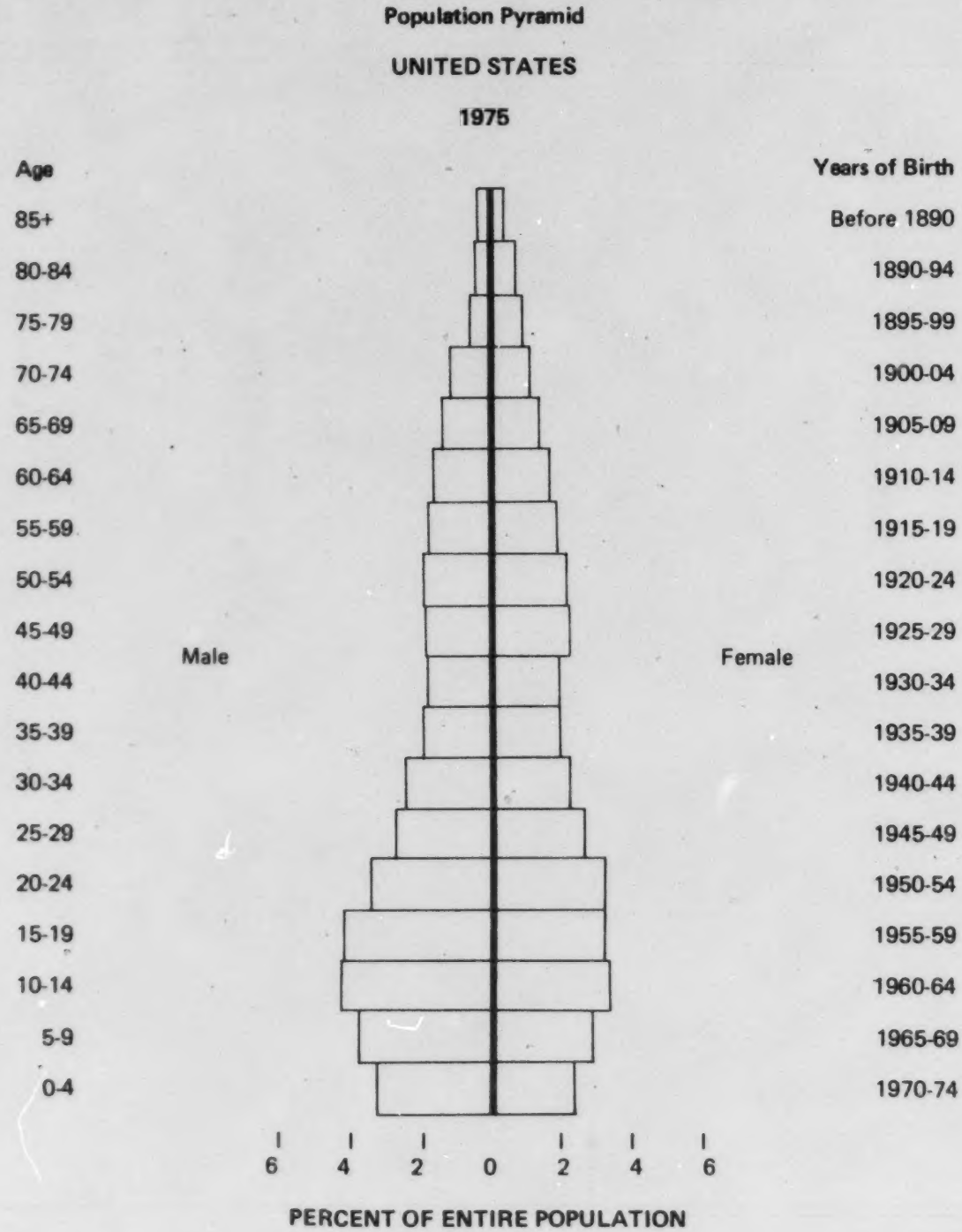


THE FIVE STEPS OF COMMUNITY PROBLEM-SOLVING

STEP I — IDENTIFY, DEFINE AND RANK (ACCORDING TO IMPORTANCE) THE PROBLEMS, NEEDS, GOALS AND ASPIRATIONS

STEP II — IDENTIFY AND MOBILIZE NEEDED RESOURCES

a. Human

b. Physical

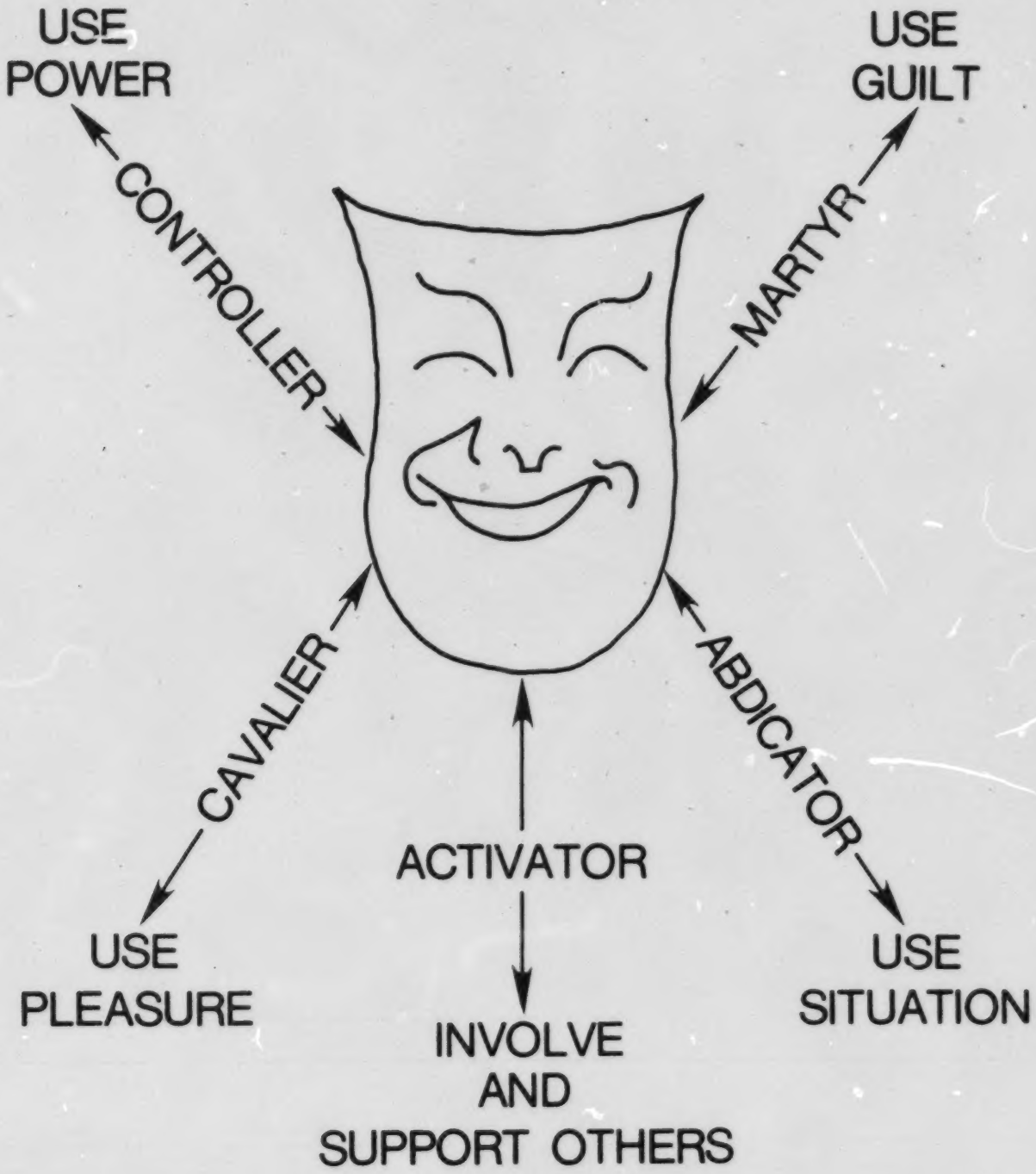
STEP III — PLAN THE PROGRAM OR PROJECT

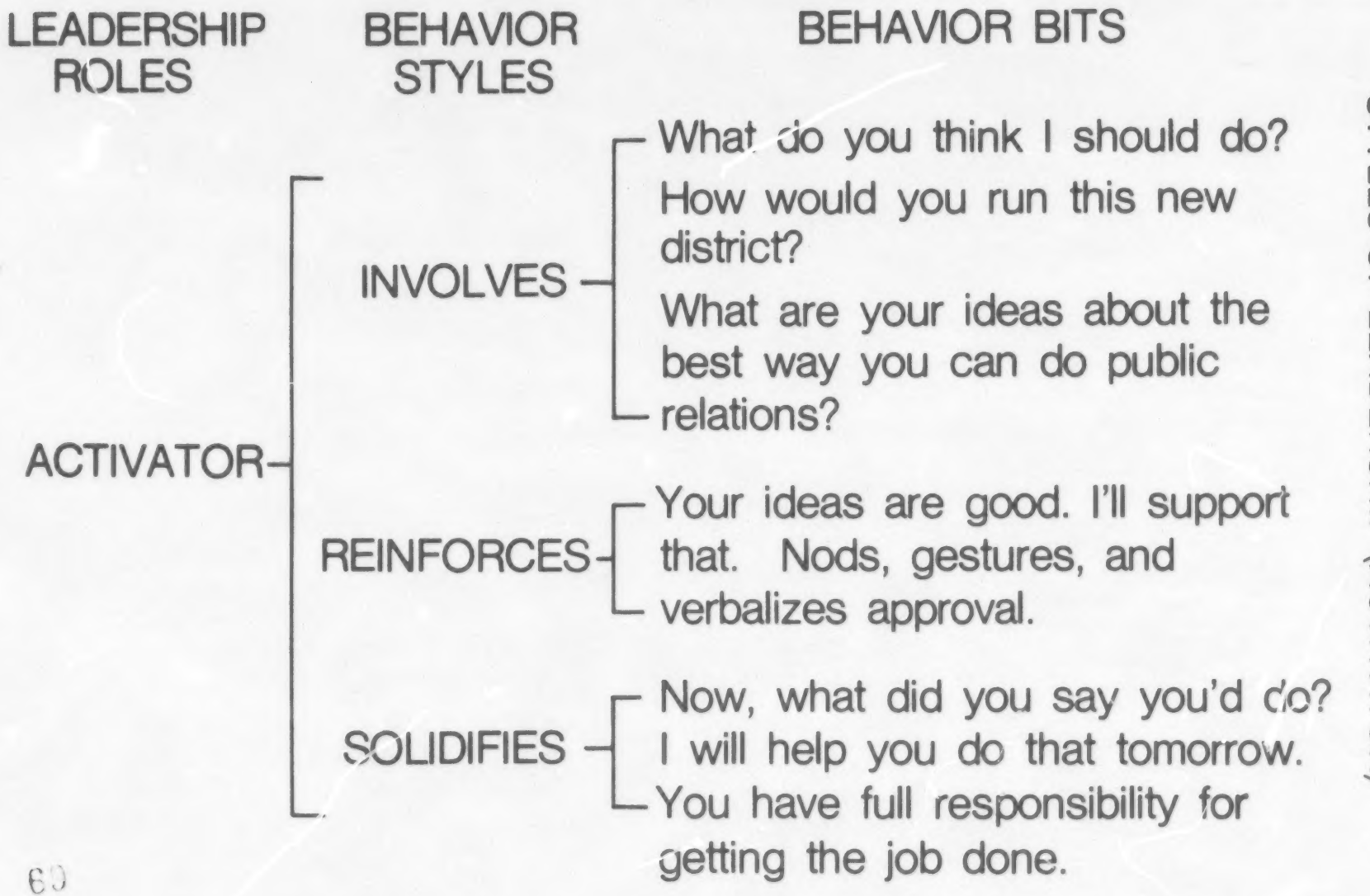
STEP IV — IMPLEMENT THE PROGRAM OR PROJECT

STEP V — EVALUATION

ON TO THE NEXT PROJECT. . .

STYLES OF LEADERSHIP BEHAVIOR THAT COULD BE USED



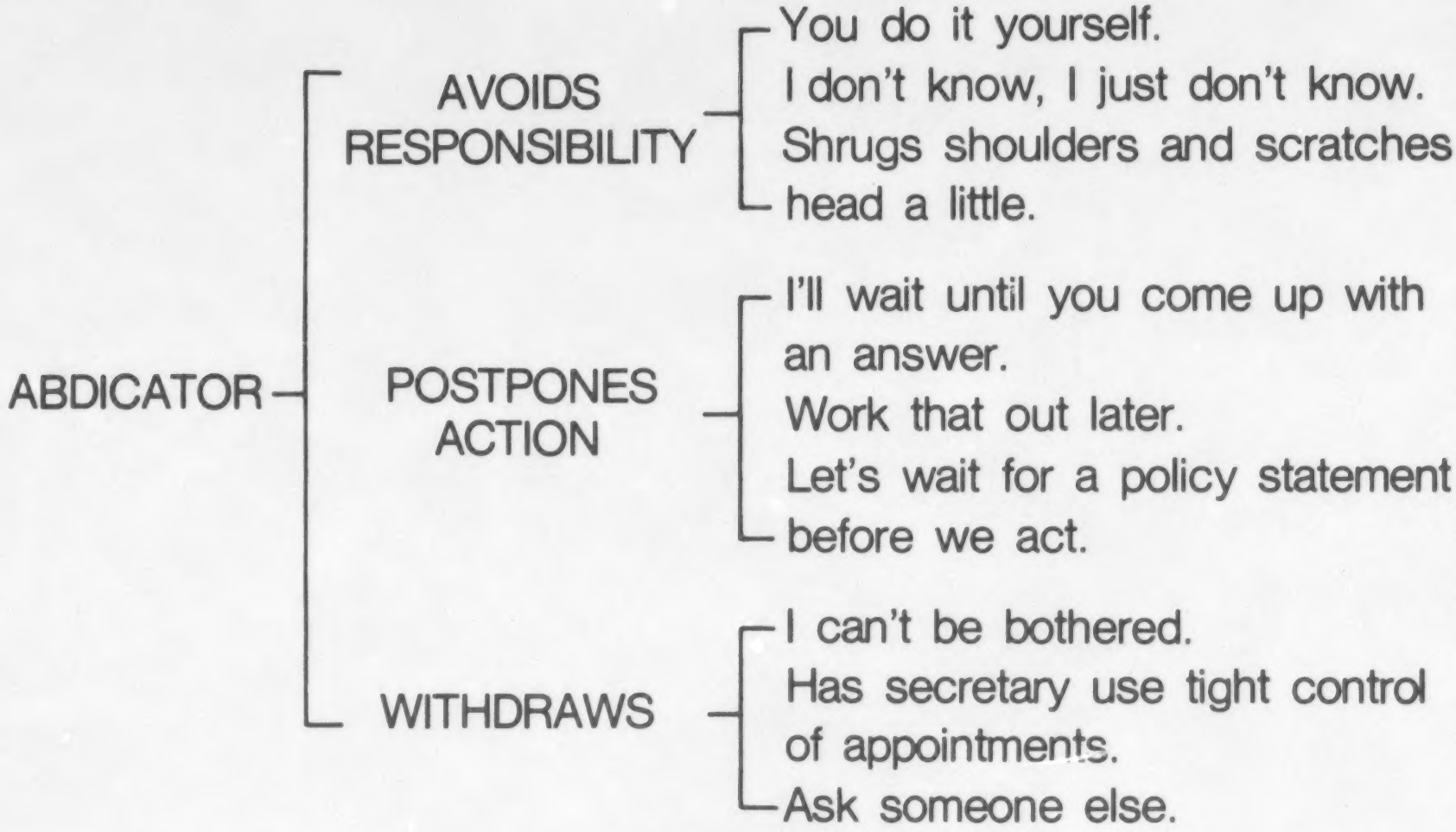

LEADERSHIP ROLES
BEHAVIOR STYLES
BEHAVIOR BITS
ACTIVATOR
INVOLVES
What do you think I should do?
How would you run this new district?
What are your ideas about the best way you can do public relations?
REINFORCES
Your ideas are good. I'll support that. Nods, gestures, and verbalizes approval.
SOLIDIFIES
Now, what did you say you'd do?
I will help you do that tomorrow.
You have full responsibility for getting the job done.

STYLES OF LEADERSHIP (CONTROLLER)

CONTROLLER

- **REGIMENTS** — Develop your plan of work by the first. Supervision is my job, PR is yours. You come directly to me if you have a problem.
- **JUDGES** — I expect you to do good work. My last PR man was great. Uses firm behavior.
- **REWARDS AND PUNISHES** — That's good. You're OK. You take the big desk. I'll look out for your interests.

STYLES OF LEADERSHIP (ABDICATOR)


ABDICATOR
AVOIDS RESPONSIBILITY
You do it yourself.
I don't know, I just don't know.
Shrugs shoulders and scratches head a little.
POSTPONES ACTION
I'll wait until you come up with an answer.
Work that out later.
Let's wait for a policy statement before we act.
WITHDRAWS
I can't be bothered.
Has secretary use tight control of appointments.
Ask someone else.

SOME OBSTACLES TO PARTICIPATION

1. POOR COMMUNITY COMMUNICATIONS
2. LIMITED CITIZENSHIP SKILLS
3. ONLY "TOKEN" PARTICIPATION OFFERED
4. RESISTANCE TO PARTICIPATION FROM LEADERSHIP
5. FEELING THAT AVERAGE PERSON HAS NEITHER OPPORTUNITY NOR ABILITY TO PARTICIPATE
6. COMMUNITY ATTITUDE AND EXPECTATIONS

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36

THE THINGS THAT CAN BE IMPROVED THROUGH PARTICIPATION

1. BETTER GOVERNMENT
   - ★ MORE RESPONSIVE
   - ★ BETTER DECISIONS
   - ★ SHARING RESPONSIBILITY
   - ★ MORE INITIATIVE
   - ★ BETTER COMMUNICATION
   - ★ EFFECTIVE EVALUATION

2. BETTER COMMUNITY
   - ★ ATMOSPHERE OF COOPERATION
   - ★ MOBILIZATION OF COMMUNITY RESOURCES
   - ★ SUSTAINED COMMUNITY IMPROVEMENT

3. BETTER INDIVIDUALS
   - ★ BETTER CITIZENS
   - ★ DEVELOP SENSE OF SELF-WORTH
   - ★ PRIDE IN COMMUNITY

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THE "TYPICAL" AMERICAN VOLUNTEER

A mythically average American Volunteer is:

Female:	26 percent of American women volunteer; only 20 percent of American men.
Married:	27 percent of the married population volunteer; only 20 percent of the never married; and 15 percent of the no-longer married.
White:	25 percent of whites volunteer; only 13 percent of non-whites.
25-44:	30 percent of those in this age bracket volunteer; 25 percent of those 45-54; 22 percent of those 14-17; 21 percent of those 55-64; 18 percent of those 18-24; and 14 percent of those over 65.
College-Educated:	43 percent of those with college educations volunteer; 25 percent of those with high school educations; and 15 percent of those not completing high school.
Middle/Upper Income:	37 percent of those with family incomes over $20,000 volunteer; the percentage diminishes as income drops.

SEED GERMINATION

SPECIAL PROJECTS FOR SPECIAL
EDUCATION STUDENTS

Topic: Seed Germination

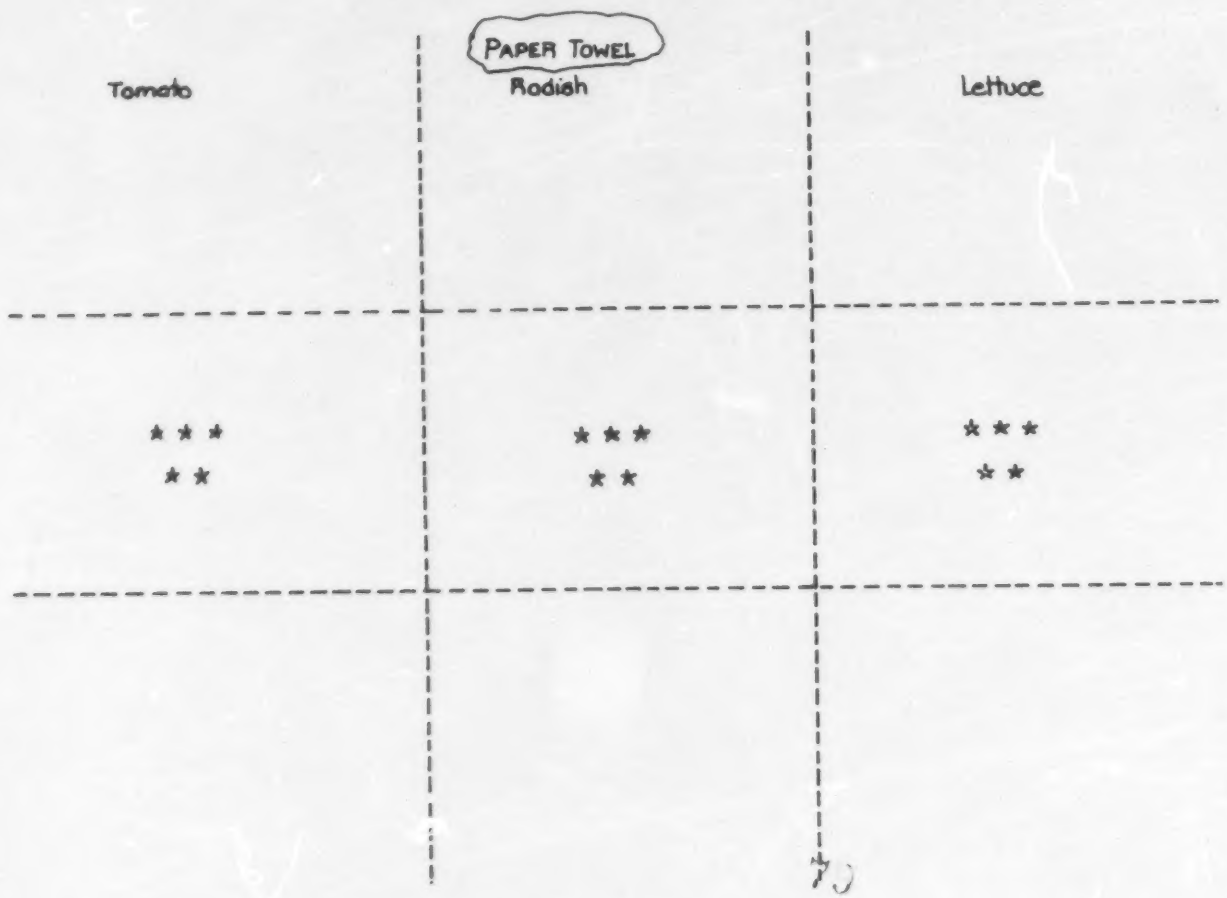
Objective: To determine the viability of outdated (previous years) seeds

1. Using a ruler, the student will prepare a format (see enclosure). listing the date, name of seeds, expected date of germination, true date of germination, and per cent of germination.
2. Each student is requested to select a total of three packages of seeds, preferably his or her favorite vegetable or flower, from the packages of seeds scattered on the table in front of him. While looking through the various seed packages the student can see that there is more than one variety of radishes, tomatoes, lettuce,etc. Their curiosity is also aroused when they feel the various size of seeds prior to opening the packages.
3. After selecting their three packages of seeds the students must record the information from the seed package onto the enclosed form. If germination date is not listed on the seed package the information is gained from Park's Seed Catalog or from a master list provided by the teacher.
4. The student will then list the variety of seeds he has recorded on his master list on a dry paper towel which has been divided into three sections. The paper towel is then dampened and seeds are placed in the middle of the paper towel under the correct variety. If the seeds are large, three seeds are used, if the seeds are small, about five seeds are used. Once the seeds are placed in their respective places, the towel is folded in thirds and then thirds again. The damp towel is placed in a plastic bag and stapled closed. The student's name and the current date is placed on the outside of the bag for identification.
5. The closed plastic bags are then placed in a warm area of the room, preferably near a source of light but not direct sunlight.
6. The student will periodically check to see if the seeds have germinated. Once the seeds have germinated the germination date will be recorded. All students are encouraged to show one another their seeds

SEED GERMINATION

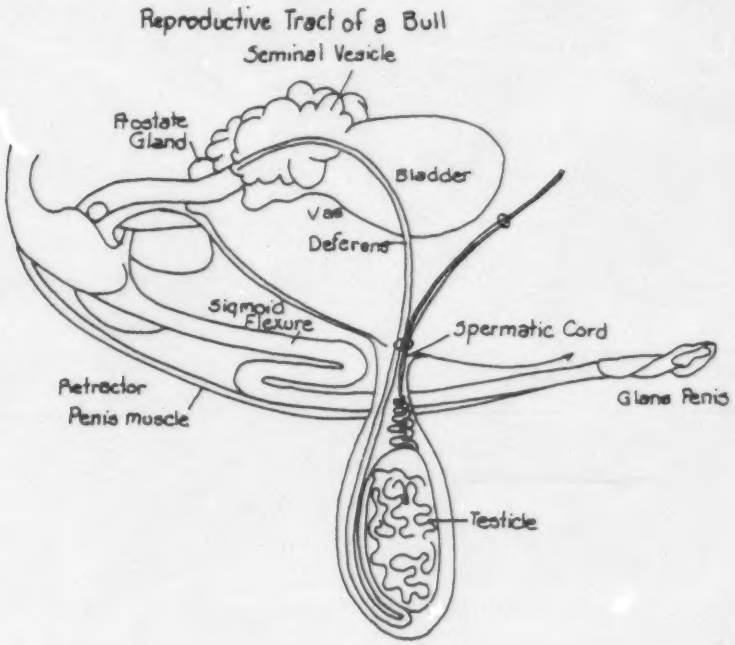
once they have germinated to note that all seeds have different characteristics as to roots, cotyledones, leaves, etc.

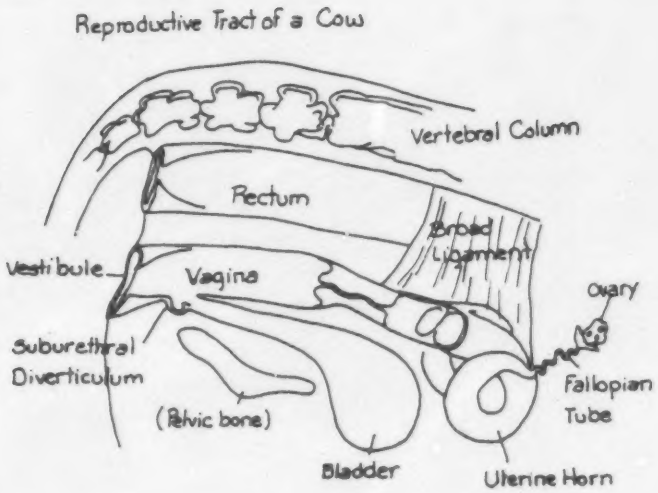
7. Some students desire to continue to grow their seeds. They are provided with the necessary pots and soil to see what the results may prove.
8. During this lesson, as in most lessons, students must keep a vocabulary list of new words, i.e., spade, till, sow, furrow, tender, hardy, annual, perennial, biennial, germinate, viable, etc. Too, we try to locate the cities, on a map, where the seed companies are located thus incorporating geography/social studies in the lesson. When figuring the per cent of germination we review and learn new math.
9. As you can see from the above there is more than seeds in a package of seeds - there is a wealth of information.



FARM ANIMAL REPRODUCTION

1. Disect real male and female reproduction tract.
2. Have A.I. Technician come in and bring nitrogen tank.
3. Use microscopes to view live sperm cells.
4. Explain job opportunities.





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LIVESTOCK SHOWMANSHIP CONTEST

Assign students to an animal (one heifer) project for 3 weeks. At the end of the period have a fitting and showmanship contest. The kids show the heifer.

Trophies, ribbons would be awarded based on

1. number of times worked with animals
2. records of animals
3. cleanliness of animals
4. training of animals
5. how clean the student is during the showmanship contest

COMPUTER USE FOR GRAIN RATIONS

1. Obtain a computer to bring into classroom.

2. Have students bring in silage and hay from home farms used in an as-fed basis.

3. Plug the necessary information into the computer on a feeding program that was discussed in class.

4. Each student can then apply information obtained from the computer to their own feeding programs at home.

5. This becomes an excellent introduction to both computer operations and dairy ration formulation.

MILK MARKETING

To illustrate types of milk that is marketed, students bring in many different types of milk products to talk about and sample in class.

Examples include whole milk, skim milk, buttermilk, goats milk, cottage cheese, yogurt, various cheeses, etc.

This exercise gives students an appreciation for the many products that milk is used for.

A variation of this exercise is for the teacher to obtain different types of milk and/or cheeses and have the students guess what they are by tasing. This introduces students to new varieties and challenges their existing knowledge of milk products.

BASIC NUTRITION

(PER SERVING)
SERVING SIZE: One cup (1 oz.)
SERVINGS PER CONTAINER: 13

	TEAM Flakes 1 oz.	TEAM Flakes with 1/3 cup whole milk
Calories	110	190
Protein	2 g	6 g
Carbohydrate	24 g	30 g
Fat	1 g	5 g

PERCENTAGE OF U.S. RECOMMENDED DAILY ALLOWANCES (U.S. RDA):

	TEAM Flakes 1 oz.	TEAM Flakes with 1/3 cup whole milk
Protein	2	10
Vitamin A	25	25
Vitamin C	25	25
Thiamine (Vitamin B_1)	25	25
Riboflavin (Vitamin B_2)	25	35
Niacin	25	25
Calcium	*	15
Iron	8	8
Vitamin B_6	25	25
Vitamin B_{12}	25	30
Phosphorus	4	15
Magnesium	2	6
Zinc	2	4
Copper	4	6

*Contains less than 2 percent of the U.S. RDA of this nutrient

I cut out the nutritional information from several food packages and passed them out in class.

I used these to get across the point that animals as well as humans need energy, protein, vitamins, and minerals to live.

The students really were interested because they were studying something pertinent to themselves.

NUTRITION INFORMATION PER SERVING

SERVING SIZE: 1 OUNCE (28.4 g, ABOUT 1 CUP) RICE KRISPIES ALONE OR WITH ½ CUP VITAMIN D FORTIFIED WHOLE MILK.
SERVINGS PER PACKAGE: 16

	RICE KRISPIES 1 OZ. (28.4 g)	RICE KRISPIES WITH ½ CUP WHOLE MILK
CALORIES	110	180
PROTEIN	2 g	6 g
CARBOHYDRATE	25 g	30 g
FAT	0 g	4 g
SODIUM	340 mg (1200 mg per 100 g)	400 mg (265 mg per 100 g)

PERCENTAGE OF U.S. RECOMMENDED DAILY ALLOWANCES (U.S. RDA)

	RICE KRISPIES 1 OZ. (28.4 g)	RICE KRISPIES WITH ½ CUP WHOLE MILK
PROTEIN	2	10
VITAMIN A	25	30
VITAMIN C	25	25
THIAMIN	25	30
RIBOFLAVIN	25	35
NIACIN	25	25
CALCIUM	*	15
IRON	10	10
VITAMIN D	10	25
VITAMIN B_6	25	25
FOLIC ACID	25	25
PHOSPHORUS	4	15
MAGNESIUM	2	6
ZINC	2	6

*CONTAINS LESS THAN 2 PERCENT OF THE U.S. RDA OF THIS NUTRIENT.

INGREDIENTS: MILLED RICE, SUGAR, SALT, MALT FLAVORING, SODIUM ASCORBATE (C), NIACINAMIDE, ASCORBIC ACID (C), REDUCED IRON, VITAMIN A PALMITATE, PYRIDOXINE HYDROCHLORIDE (B_6), RIBOFLAVIN (B_2), THIAMIN HYDROCHLORIDE (B_1), FOLIC ACID AND VITAMIN D_3. BHA ADDED TO PRESERVE PRODUCT FRESHNESS.

NUTRITION INFORMATION PER SERVING

SERVING SIZE: 1 OZ (ABOUT ¾ CUP) (28.35 g)
SERVINGS PER PACKAGE: 12

	1 OZ (28.35 g) CEREAL	WITH 1/2 CUP (118 mL) VITAMIN D FORTIFIED WHOLE MILK
CALORIES	100	180
PROTEIN	3 g	7 g
CARBOHYDRATE	23 g	29 g
FAT	0	4 g

PERCENTAGES OF U.S. RECOMMENDED DAILY ALLOWANCES (U.S. RDA)

PROTEIN	4%	10%
VITAMIN A	25%	30%
VITAMIN C	*	*
THIAMINE	25%	30%
RIBOFLAVIN	25%	35%
NIACIN	25%	25%
CALCIUM	*	15%
IRON	25%	25%
VITAMIN D	10%	25%
VITAMIN B_6	25%	30%
FOLIC ACID	25%	25%
VITAMIN B_{12}	25%	30%
PHOSPHORUS	8%	20%

*CONTAINS LESS THAN 2% OF THE U.S. RDA OF THESE NUTRIENTS

INGREDIENTS: WHEAT MALTED BARLEY SUGAR SALT, AND FORTIFIED WITH THE FOLLOWING NUTRIENTS: VITAMIN A PALMITATE, NIACIN, IRON, VITAMIN B_6, RIBOFLAVIN (VITAMIN B_2), THIAMINE MONONITRATE (VITAMIN B_1), FOLIC ACID VITAMIN B_{12}, AND VITAMIN D_3. BHA IS ADDED TO PACKAGING MATERIAL TO PRESERVE FRESHNESS.

CONTAINS 1.7% NON-NUTRITIVE CRUDE FIBER BY WEIGHT.

SATISFACTION GUARANTEED OR MONEY REFUNDED.

INGREDIENTS: SUGAR, MODIFIED FOOD STARCH, COCOA PROCESSED WITH ALKALI, SODIUM PHOSPHATES (STABILIZERS), ARTIFICIAL FLAVOR, SALT, ARTIFICIAL COLOR, PARTIALLY HYDROGENATED SOYBEAN AND COTTONSEED OILS WITH BHA (TO PRESERVE FRESHNESS), MONO- AND DIGLYCERIDES (EMULSIFIERS).

INGREDIENTS: ENRICHED WHEAT FLOUR (CONTAINING NIACIN, REDUCED IRON, THIAMINE MONONITRATE AND RIBOFLAVIN), PARTIALLY HYDROGENATED VEGETABLE OIL SHORTENING (CONTAINS ONE OR MORE OF THE FOLLOWING: SOYBEAN OIL, PALM OIL, COTTONSEED OIL), SALT, MALTED CEREAL SYRUP, SODIUM BICARBONATE, YEAST AND ENZYMES.

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EMBRYOLOGY AND INCUBATION

Get 100 baby chicks and raise in classroom until 3 weeks old and sell to students for cost of chicks, feed and bedding.

Do not keep past 3 weeks as feed consumption increases geometrically.

Hatching eggs in an incubator can be an interesting diversion from the usual book-work. I hatched chicken, duck, quail, goose eggs with an 8th grade class and found that they showed great interest. They learn to accept responsibility (turning eggs, judging chicks). As well they get a lesson in embryo development.

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AGING AND SEXING GAME ANIMALS

Students find and bring in items such as feathers, lower jaw bones, antlers, etc. They learn how to age and sex the animal that the materials came from based on the part that they brought in.

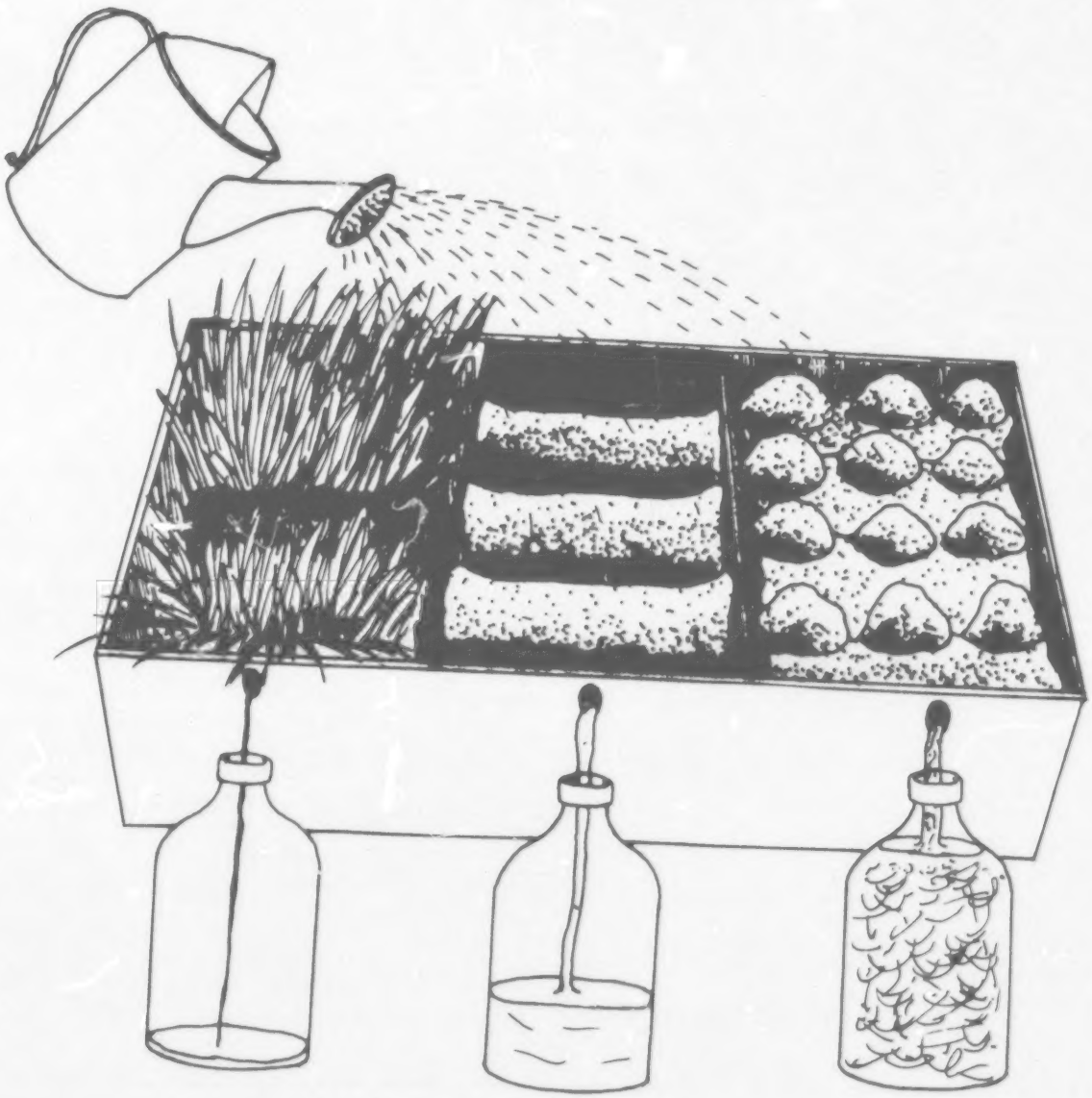
SOIL STRUCTURES

For use along with soil structure slides. You need raisins, caramel corn, coconut marshmallows and clothespins. The raisins can be used to show granular soil structure since they have similar properties (i.e. compact together, break apart easily). The caramel corn can represent blocky soil as can coconut marshmallows. Clothespins can be joined together to represent platy soil structure. At the end of the lesson, the different foods can be used as awards in a verbal quiz.

SOIL CONSERVATION

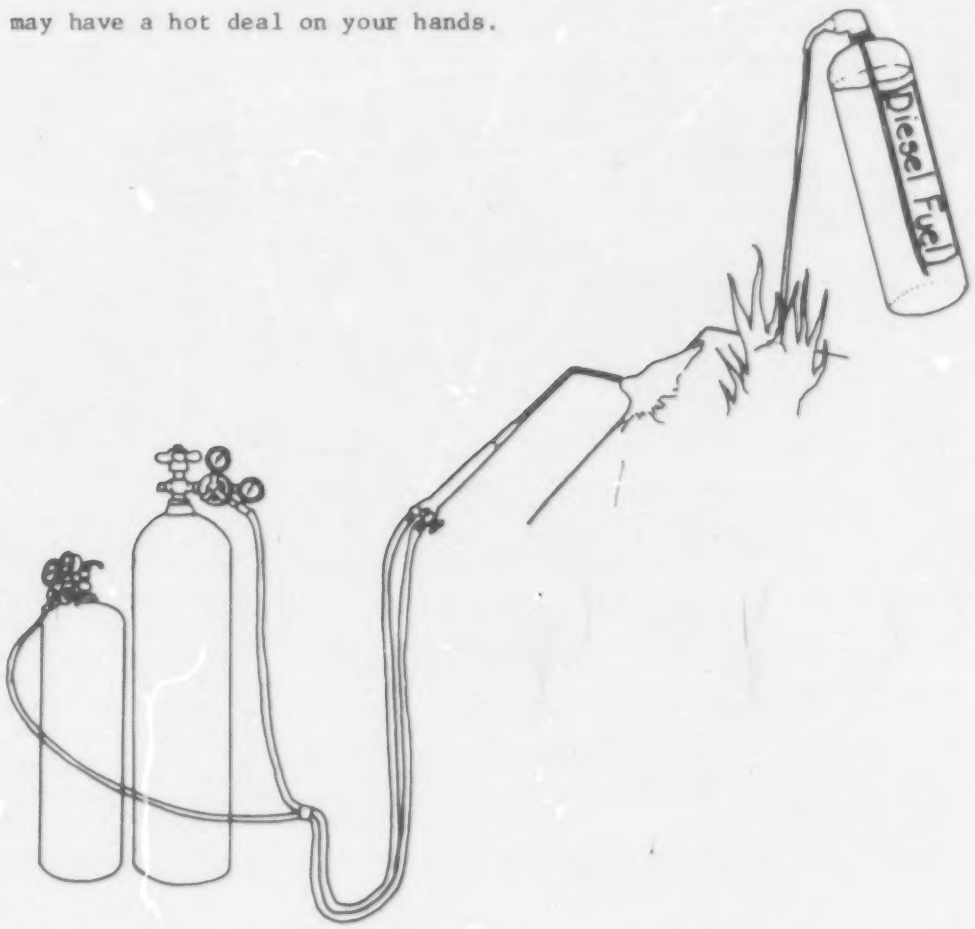
Construct soil boxes to demonstrate the effect of slope and soil conservation practices.

1. Make separate boxes or one box with several compartments
2. Raise the boxes to different heights to simulate slope -- or
3. Let each compartment show a different soil conservation practice (no cover, contour tillage, cover crops)
4. Use a sprinkling can to "make it rain" and note the different amounts or runoff, soil erosion, etc.



HEAT OF COMBUSTION

To explain the heat of combustion in diesel engine, with an acetylene torch heat a piece of angle iron white hot. Then take a spray bottle of diesel fuel and spray it across the plate. The fuel will burst into flames. Care must be taken or you may have a hot deal on your hands.

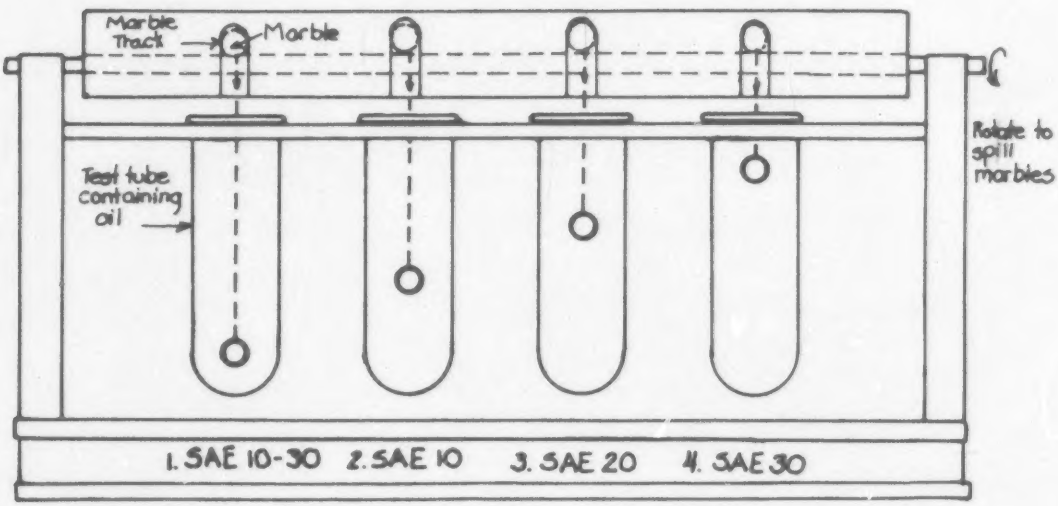


OIL VISCOSITY

Use at least 4 test tubes, fill them with different viscosity oils. Select a marble for each test tube.

Test Tube 1	Test Tube 2	Test Tube 3	Test Tube 4
SAE 10-30	SAE 10	SAE 20	SAE 30

When marbles are dropped into the tubes, they form a graph-like pattern according to the viscosity of the respective oils. (See diagram).

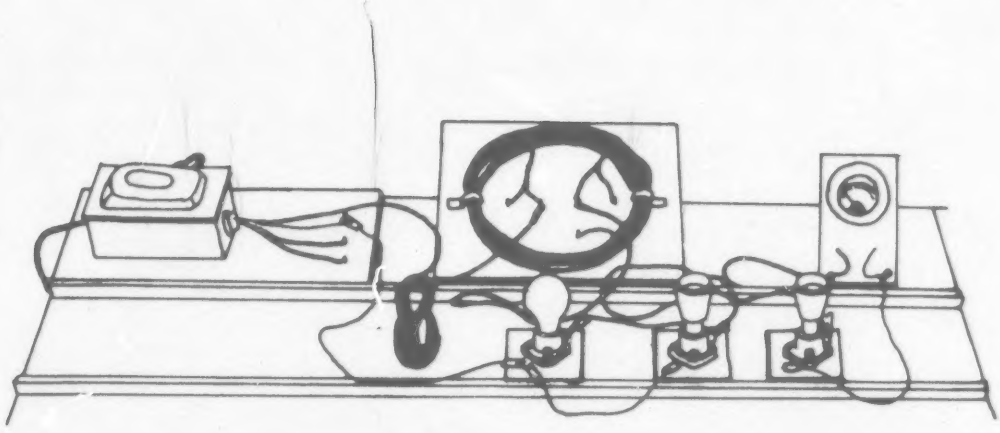


WIRING BOARDS

Construct a wiring board to demonstrate to students types of wiring combinations.

1. Use a 3/8" plywood 4 x 8 sheet.
2. If the boards are 2' x 4' boards, use 4 of them of desired length.
3. Obtain various switches (3-way, 2-way), electrical boxes and outlets and fasten them to the board.
4. Light bulbs can be wired in series or show students the difference.

Students enjoy this type of teaching tool and like to make their own wiring combinations from it also.



SAFE USE OF OXYGEN AND ACETYLENE

Fill three balloons:

-one with oxygen

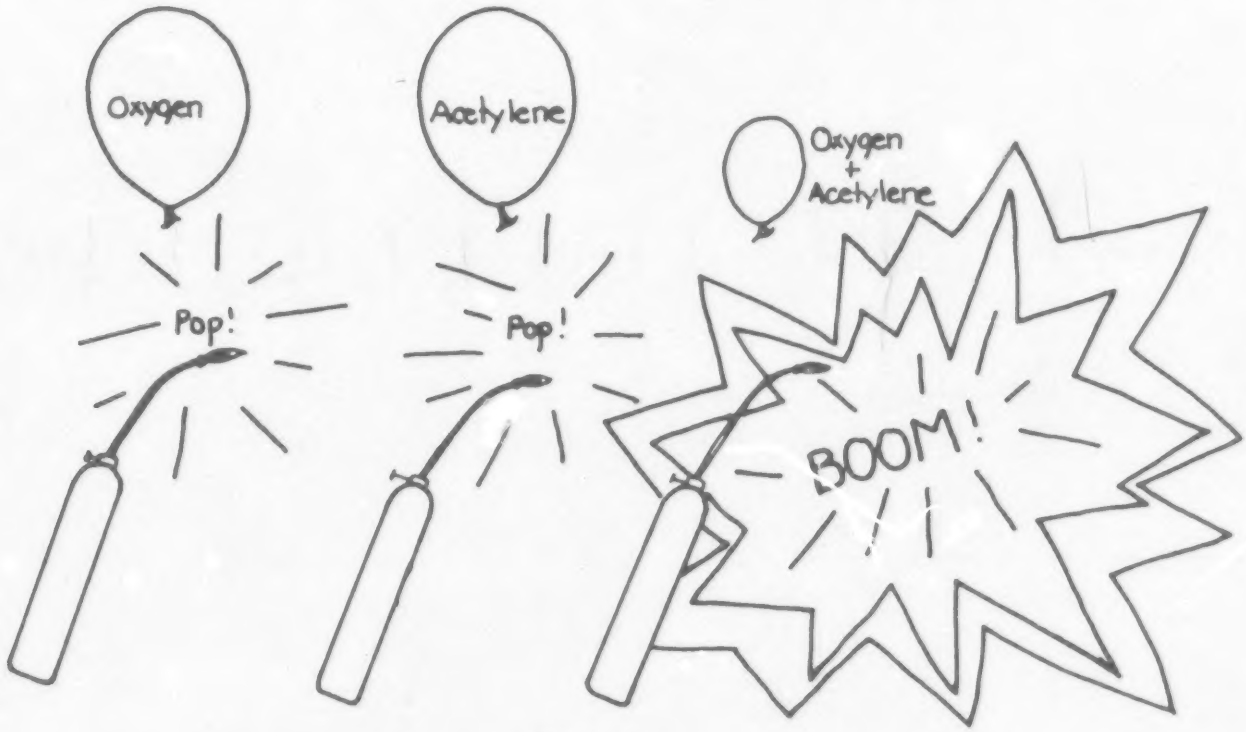
-one with acetylene

-one with acetylene and oxygen (only to size of egg)

With lighted torch pop each balloon, oxygen first, acetylene next, and acetylene and oxygen last.

This demonstration drives home the point that acetylene and oxygen can be dangerous. Helps students develop respect for this useful combination of gases.

Note: The smallest balloon filled with oxygen and acetylene gives the loudest pop. Be careful! (Egg size only)

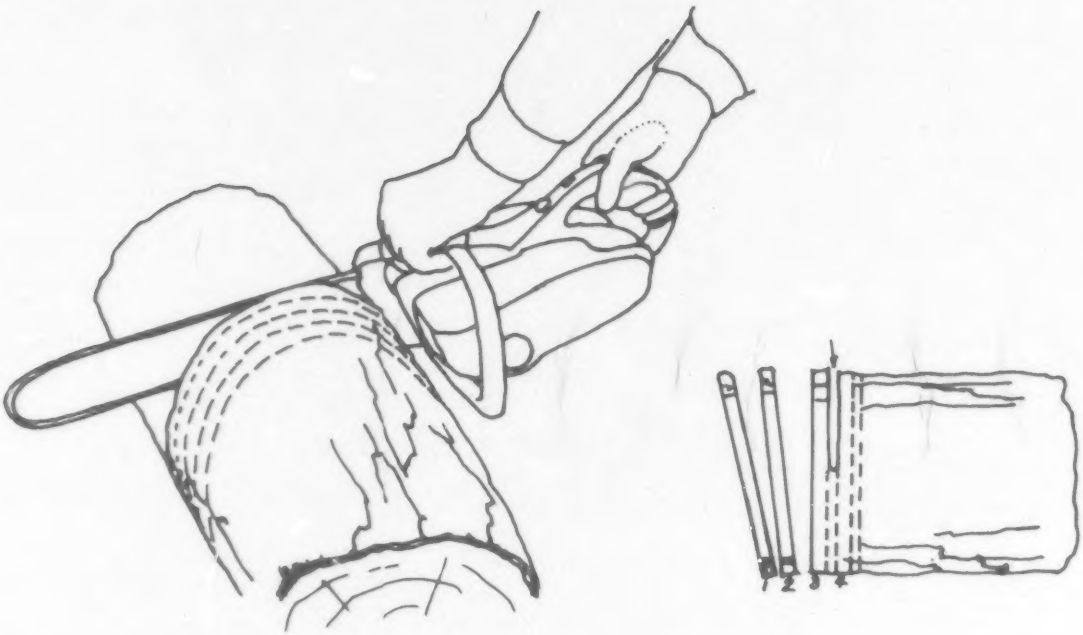


CHAIN SAW USE AND SAFETY

Students learning to use chain saws can demonstrace their control of the saw by cutting a series of 4 complete slices in successions.

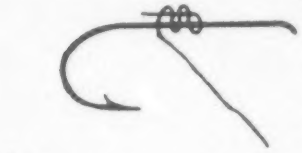
Slices should be uniform in width - about 1/2" to 1" wide - with each slice being evenly cut.

Students should also display safe use of chain saw when performing this procedure.



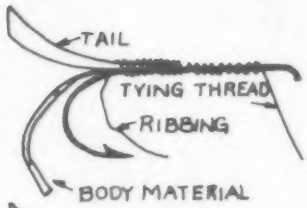
FLY-TYING BASICS

Hook--Eyed, rather large. Tying thread--Silk or nylon. Tail--Any feather. Body--Wool yarn, silk floss. Ribbing--Any tinsel. Hackle--Any large enough. Wings--Any large feather with straight quill and webbing alike on both sides of quill. Wax--Any that is sticky. Cement.

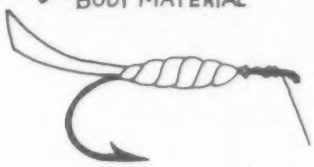


TO MAKE A FLY

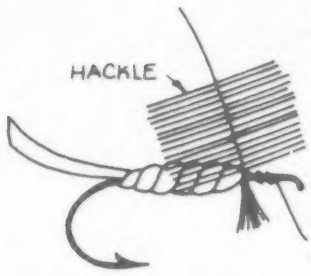
Place hook in vise, attach firmly about 18" of well waxed thread to center of hook shank by winding in and under back, toward hook band. This tying thread is the foundation and binder of the entire fly; and its unused portion must be free to work with at all times. A hackle plier or other weight applied to the free end of the thread will help to keep it from unwinding when not being held or tied by a half hitch.



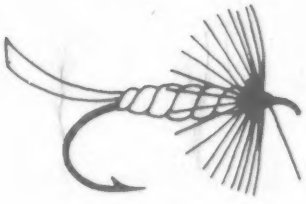
Toward the hook bend, wind the thread over wisps of feather held on edge to confine them as a tail on the top of the hook. More turns will attach the ends of the materials for body and ribbing. Wind the tying thread tightly toward the hook eye so that the body material can be wound over.



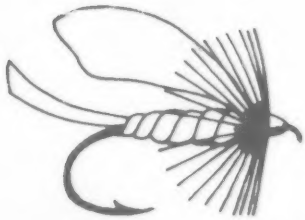
Wind the body material over the tying thread to form a smooth body of good shape and size leaving the front third of the hook bare. Bind loose end of body to shank with tying thread and trim off excess material. Wind the ribbing forward over the body in evenly spaced helical turns. Bind the free end of the tinsel and trim it.



Draw a hackle between thumb and finger to make the fibres stand at right angles to the quill. Bind the tip of the hackle to the shank close to the end of the body with the shiny side of the hackle toward you. Wind the hackle edgeways around the shank using care to drop the fibres free and radiating nicely from the shank. Bind the hackle with the thread and cut off the excess. Now by finishing off the head with a few more turns of thread and a drop of cement you would have a finished hackle fly. To add a pair of wings proceed as follows.



Take any large feather that has a straight quill and webbing the same size and shape on both sides of the quill and cut equal pieces of webbing from each side of the quill. Make these pieces the proper size for the wings. Hold them between the left thumb and finger with the tips even and the concave sides together in perfect alignment. Place these over the hook shank in proper wing position and bind them firmly, close to the hackle. It will take practice to keep the wings flat and upright while tying in, but it can be done beautifully. Now, trim off the excess butts of the wings and form a neat head with a few extra turns of thread. Fasten the tying thread permanently with a few half-hitches and a drop of cement. Cut off the tying thread and you have a fly. Preen it up a bit with the bodkin, if necessary.



Obviously, there is much more to fly-making than the few paragraphs above explain. However, if this simple procedure is mastered, one is in a position to make good fish-taking flies that will encourage further study and practice. The fly, the making of which is described, is the basic wet fly. Dry flies, streamers, nymphs, and others are made with only moderate changes in the technique. Flies for the market must be well made, but the fish don't have a critical eye for workmanship.

DISPLAY BOARDS

Classroom display boards can be educational projects for students to construct. They also help to spruce-up a classroom and add interest to persons visiting such as parents, members of the Board of Education, principal, superintendent.

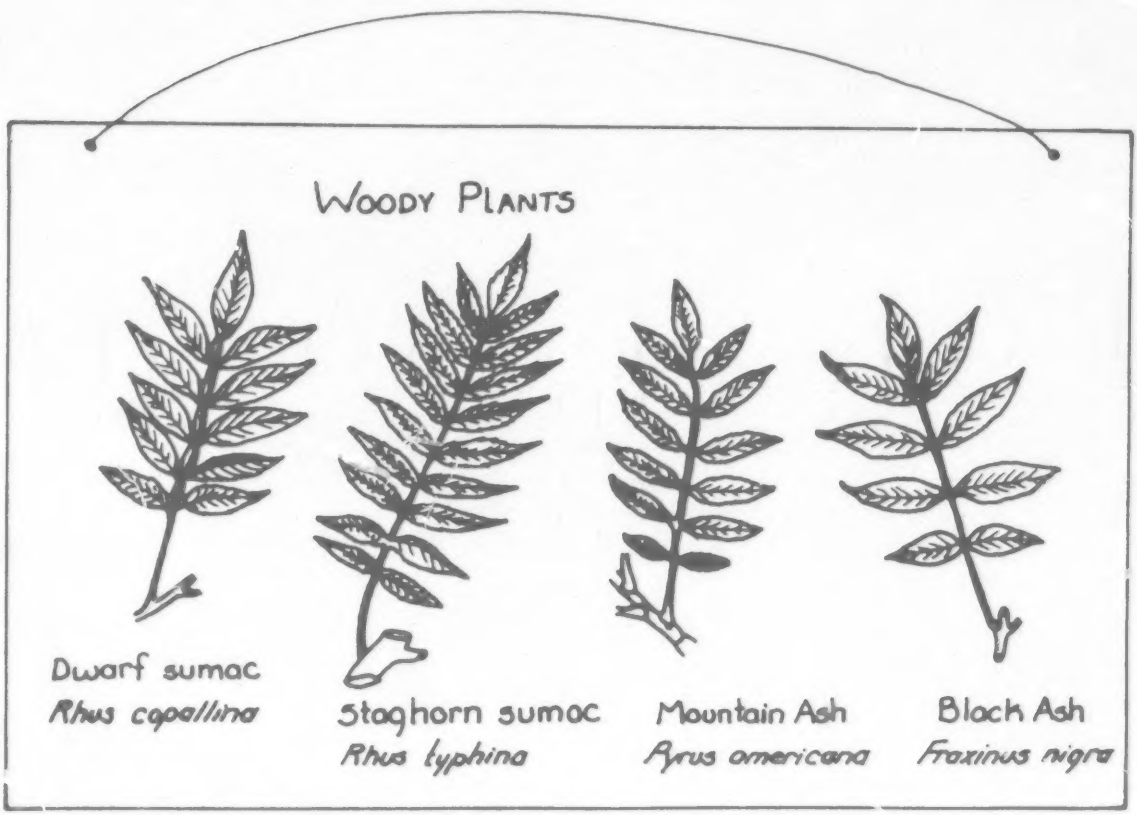
Examples of display boards include:

-Woody plant display board with botanical and commercial names

-Wood display board

-Seed and grass display boards - showing different colors and sizes

-Wood ring display - can be used to show different dates of events occuring in history



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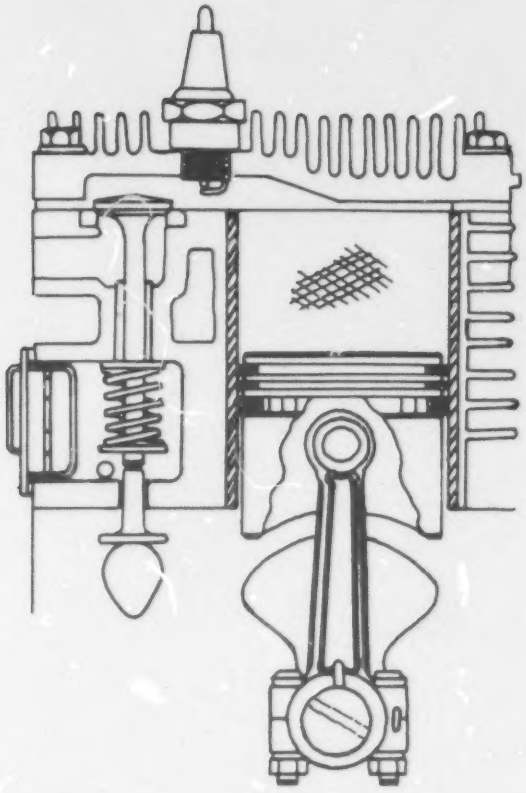
CUT AWAY ENGINE



Make a cut-away engine. Paint the parts different colors. Students quickly learn to identify parts and functions with the aid of the color coding.

LABELING AND COLOR CODING

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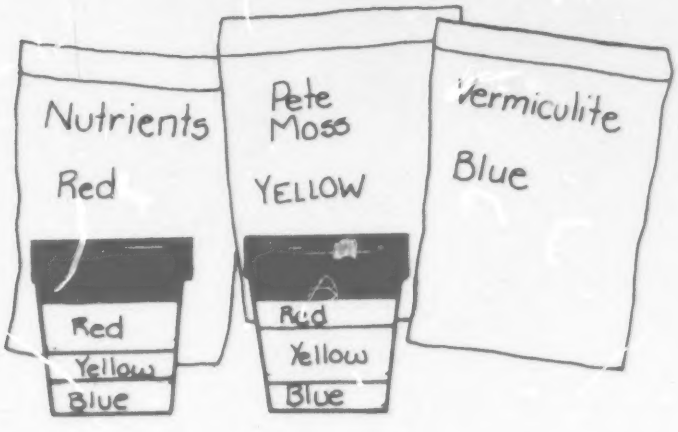

Color code containers of supplies and materials. This helps handicapped students improve their knowledge about horticultural supplies.

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CLASS VISITATION OF STUDENT PROJECTS

One Saturday in early Spring, my Ag I class goes as a group to each student's home to see their ag project.

The student is responsible to prepare their project (wash the animal, etc.) and tell about the chores, feeding, and other responsibilities of the project.

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JOB VISITATION

Students really learn by doing and by seeing jobs carried out in the actual work situation.

Take horticulture classes to other areas to do work.

Allow students to work with special education students, showing them how to make flower arrangements.

Students react better to actual job situations than mock ups.

FFA EMBLEM — MADE OF SEEDS

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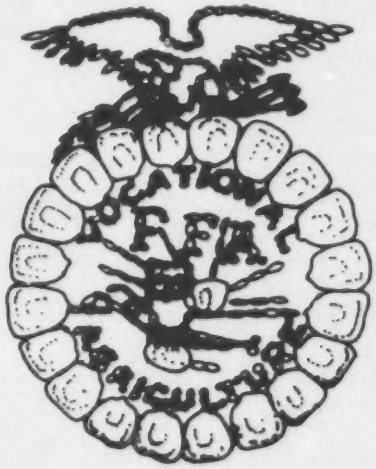
Have students make an FFA emblem of seeds and learn about the seeds at the same time.



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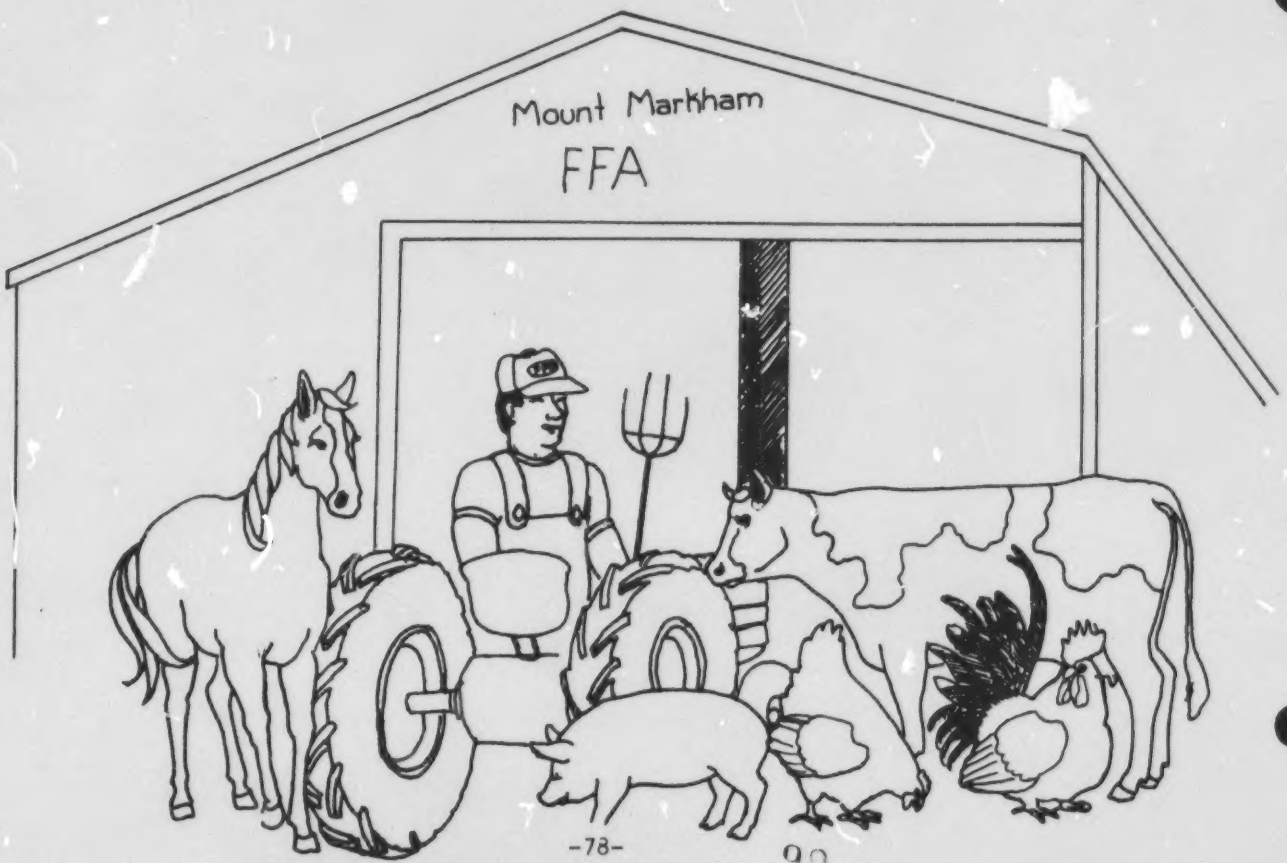
FFA SCHOOL FAIR

Use a livestock fair to involve school and community with the FFA.

Be sure to include the following items in your planning:

1. Publicize throughout the school and community
2. Develop an entry blank
3. Have committees with clear objectives and responsibilities
4. Develop rules for entering, fees, showing, judging, behavior, etc.
5. Establish classes and entry requirements
6. Develop a time schedule for activities
7. Select judges
8. Secure premiums and awards
9. Involve the advisory council
10. Secure permission



ARBOR DAY PROJECT

Each April the FFA purchases 1,000 seedling evergreen trees from the New York State Department of Environmental Conservation. Each tree is misted and individually placed in a plastic bag which has a handful of wet potting soil.

Teams of students then go to each elementary classroom and present information on Arbor Day, tree characteristics, site selection, and tree planting. A tree is planted in a pail of soil to show the students the correct way to plant a tree. Each student is given one seedling to take home and plant. Students who want more trees may purchase them for five cents each.

The project has been most successful. Our Ag class members enjoy doing it and the elementary students look forward to receiving their tree and taking it home and planting it. The project helps keep the elementary classes aware of our FFA and Ag department. A follow-up survey we did reveals that about 99% of the trees are planted and about 75% of them live.

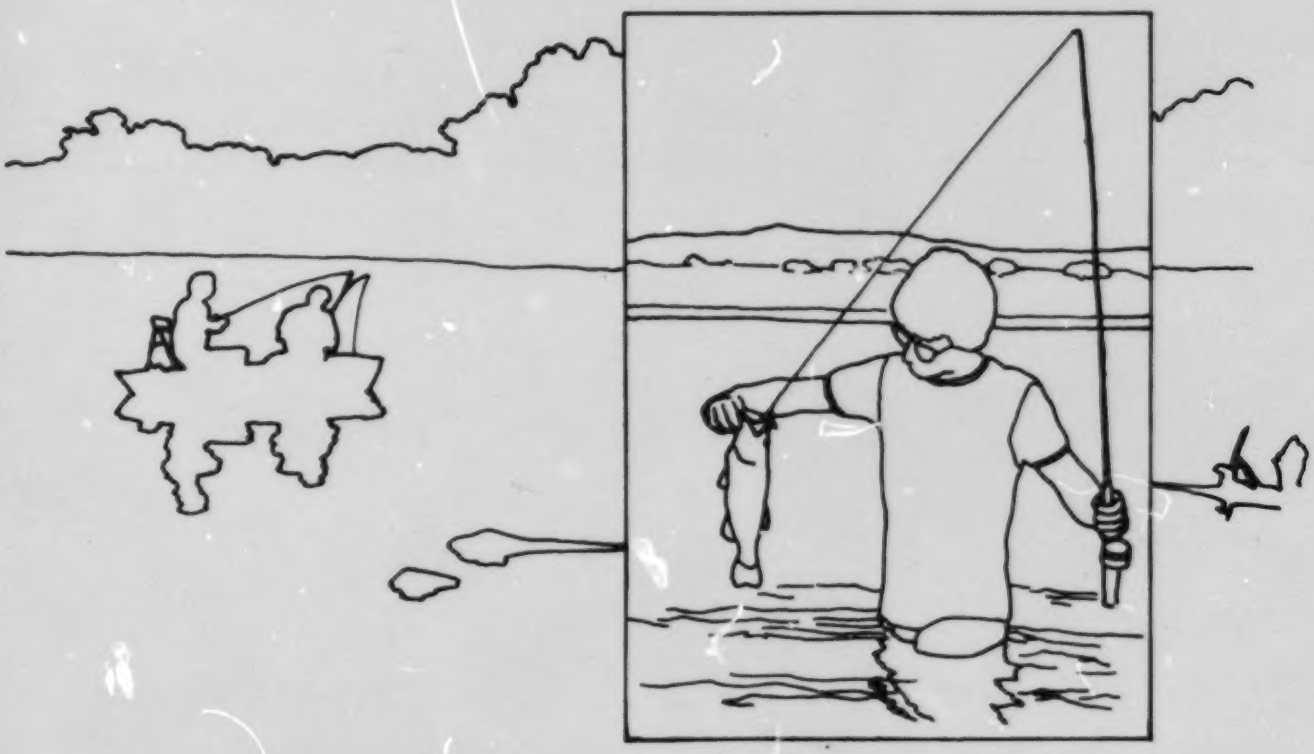
FISHING TRIP

Classroom activities are fun and teach students the importance of prior planning and cooperation.

One example of a fun activity is a 3 day fishing trip. The FFA can pay a major portion of the expenses; or students may raise money to fund the trip.

Parents may be asked to help provide transportation and act as chaperones.

Students, parents and teachers all enjoy this activity as it helps to put items learned in the classroom into actual experience.



ROOT VIEW BOX

With a box designed to bring the below-ground action of plants into view, the plant world takes on a new dimension.

According to teachers using the box, the vegetable world comes alive in the eyes of the children. Roots and tops are seen as one. Roots develop rapidly. There's a day-to-day change to sustain interest.

To get full exposure of root growth, the window or viewing side of the box must be slanted enough to force the roots to grow against the window.

Manufacturer root view boxes are now available -- complete with built-in automatic watering and soil mix.

One way to make the box is diagrammed below. The dimensions are not critical. The box can be any length. We like to use a 2-foot long box. It's easy to move around but long enough to show off a dozen root vegetables. With two boxes you can compare growth in different soils or with different rates or methods of fertilizing.

To make sure of success, use one of the scientifically blended "soil" mixes: Jiffy-Mix, Peat-lite, Redi-Earth, U.C. Mix, Super Soil, Pro-Mix. Thoroughly dampen the mix before filling the box. Fill to near the top and water thoroughly to settle the soil. Sow seeds 1/4 inch from the glass or plastic. Cover the box with a plastic film to slow evaporation. Moisten top of soil when it becomes dry.

The window should be covered with a wood panel or a dark cloth drape except at viewing times, since roots of many plants tend to grow away from the light source. Boxes can be used to show many features:

How roots develop in an ideal soil.
How roots develop in a problem soil.
How water moves through various soil types.
How plants respond to fertilizers.

With two or more boxes you can set up a number of soil tests. For example, compare plant growth of lettuce in the synthetic soil with growth in your garden soil or with your garden soil mixed with compost or other organic matter.

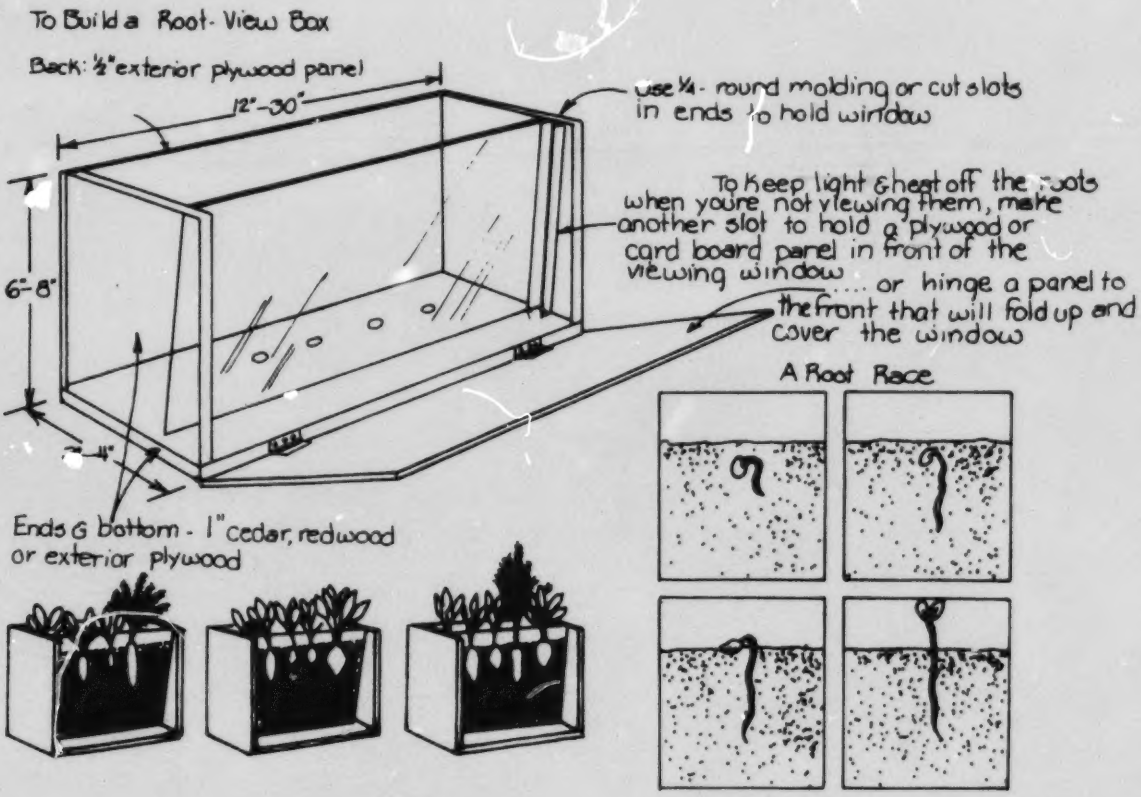
Or test one method of fertilizing against another. For example, try fertilizing with a liquid fertilizer at the rate and frequency called for on the lable in one box and in the other apply at 1/2 the amount called for but twice as often.

Observation of the root growth of tomato transplants will tell you a lot about planting tomatoes. Plant one as you would any other vegetable and in the same box plant another deep in the soil. Watch to see if roots form all along the buried stem as well as spreading out from the root ball.

Experiments in rooting cuttings will open young eyes to another miracle. A piece of geranium or coleus "mother" plant, stuck into the planter mix will form roots and produce a duplicate of its mother. In growing cuttings, cover the box with polyethelene film to prevent the cuttings from drying out.

If the boxes must remain indoors at all times include chives, cress, leaf lettuce, endive and parsley in your planting. All of the root crops -- carrots, beets, turnips -- will need sunlight or an indoor grow-light.

After the box has been in use for a month, some light fertilization will be necessary. Use a liquid fertilizer at the rate called for on the label.


To Build a Root-View Box
Back: ½" exterior plywood panel
12"-30"
6"-8"
Use ¼- round molding or cut slots in ends to hold window
To keep light & heat off the roots when you're not viewing them, make another slot to hold a plywood or card board panel in front of the viewing window .... or hinge a panel to the front that will fold up and cover the window
Ends & bottom - 1" cedar, redwood or exterior plywood
A Root Race

OPERATING A SMALL NURSERY

Have students plan and develop a small nursery or greens area.

Fence in the area.

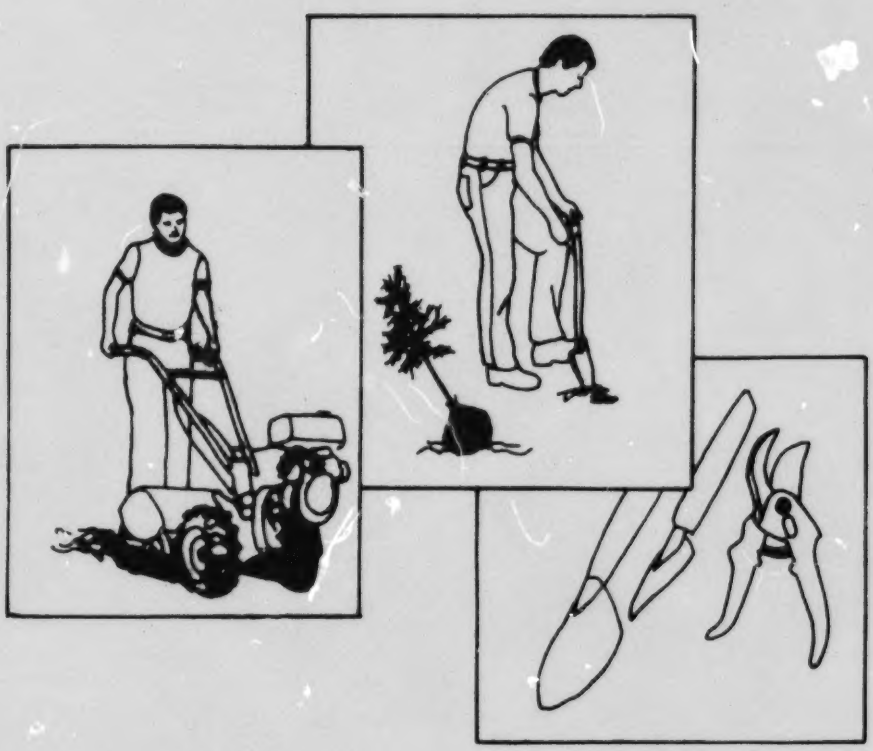
Care for the school grounds.

- operate mowers
- operate roto tillers

Make out plans for the materials needed to keep up the nursery or green.

Develop care and maintenance schedules - give each student in the class a specific responsibility.

Rotate assignments of care, planning, and supervision.



PICNIC TABLE PLANS

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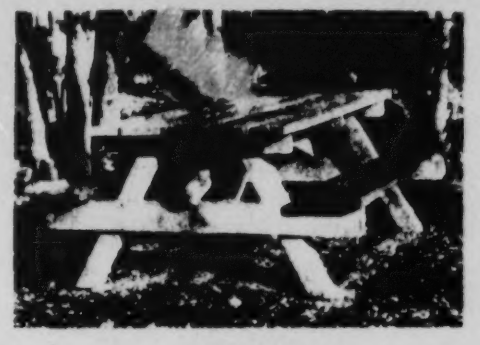
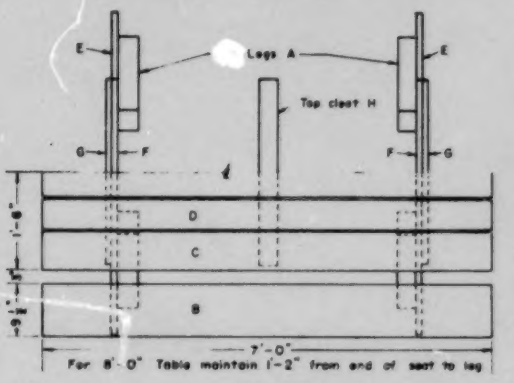
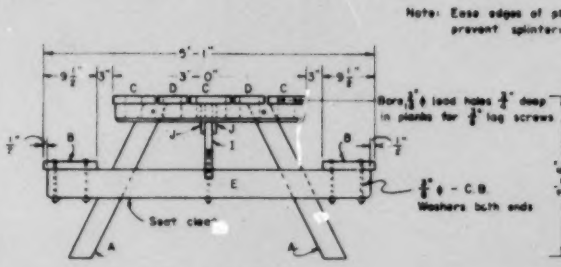


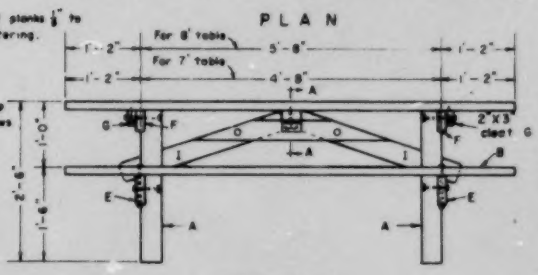
FACSIMILE



PLAN



END VIEW



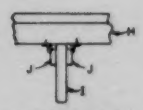
SIDE VIEW

SPECIFICATIONS

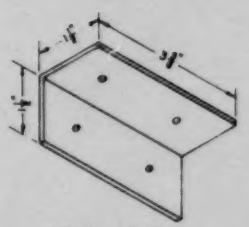
Use most economical durable species available (See Wood Handbook, U.S.D.A. Handbook No. 72), preferably heartwood cuts. Lumber shall be equivalent to West Coast Lumberman's Association "Construction" grade for Douglas Fir. Lumber shall have a moisture content, prior to treatment, of not to exceed 20% in the outer half inch.

After all cutting and boring is completed, all table parts shall be given a preservative treatment by soaking for 48 hours in a water repellent preservative certified as conforming to composition A (pentachlorophenol) of Federal Specification TT-W-572, "Wood Preservative, Water Repellent". One brush coat of Forest Products Laboratory Natural Finish, colored to Regional Standards, shall be applied after assembly. The interval between treating and applying the finish shall be such that the surface shall be free from waxy, greasy, oily, or crystalline deposits removable by rubbing with the fingers, free from any glossy film resembling that of varnish, and free from any easily detectable odor of treating solvent. If the only surface contamination is in the form of a few dry crystals that can readily removed by brushing, finishing may be permitted if the surfaces are brushed clean.

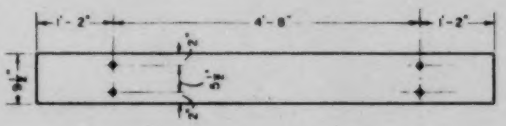
Wood seat and top planks shall be installed with the heart side down.



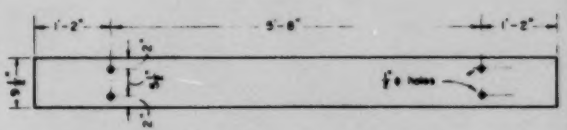
SECTION A-A



GALV. CLIP
(1½" X 1½" X 3½" X 18 ga.)



SEAT PLANK (7' Table)
(Make 2 from 2"X10"X 7'-0" S4S)



SEAT PLANK (8' Table)
(Make 2 from 2"X10"X 8'-0" S4S)

SCS-472
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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

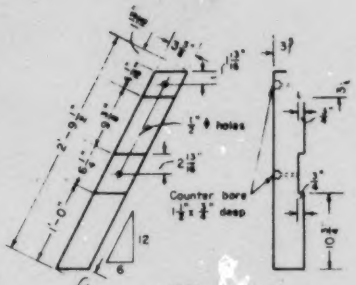
LIGHT PLANK PICNIC TABLE

FROM ORIGINAL DESIGN BY
U. S. FOREST SERVICE

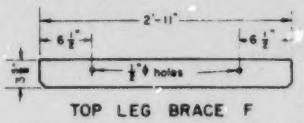
SHEET 1 OF 2

PICNIC TABLE PLANS

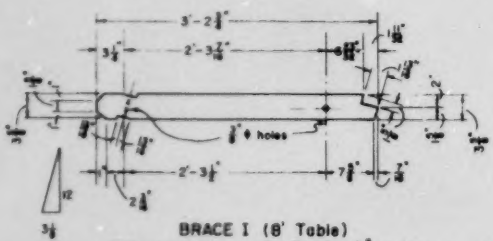
MATERIAL LIST					
7 FOOT TABLE	NO.	FINISH	NAME AND USE	MARK	8 FOOT TABLE
4"X4"X2'-9½"	4	S4S	Legs	A	4"X4"X2'-9½"
2"X10"X7'-0"	2	S4S	Seat planks	B	2"X10"X8'-0"
2"X8"X7'-0"	3	S4S	Top planks	C	2"X8"X8'-0"
2"X6"X7'-0"	2	S4S	Top planks	D	2"X6"X8'-0"
2"X6"X5'-0"	2	S4S	Seat cleats	E	2"X6"X5'-0"
2"X4"X2'-11"	2	S4S	Top leg brace	F	2"X4"X2'-11"
2"X3"X2'-11"	2	S4S	Top cleat	G	2"X3"X2'-11"
2"X4"X2'-11"	1	S4S	Top center cleat	H	2"X4"X2'-11"
2"X4"X2'-8½"	2	S4S	Brace	I	2"X4"X3'-2½"
1"X4"X3'-0"	2	S4S	Gusset plate	J	1"X4"X3'-8"
½"X10"	2	Galv.	Carriage bolts brace		½"X10"
½"X8"	8	Galv.	Carriage bolts seats		½"X8"
½"X7"	4	Galv.	Carriage bolts top to legs		½"X7"
½"X5"	4	Galv.	Carriage bolts (SEAT CLEAT TO LEGS)		½"X5"
½"X4"	2	Galv.	Carriage bolts gusset plate		½"X4"
½"X3"	30	Galv.	Lag screws-cleats to top		½"X3"
Cut washers	42	Galv.	½" Dia. bolts		Cut washers
Cut washers	8	Galv.	½" Dia. bolts		Cut washers
Cut washers	12	Galv.	To fit sq. end (½" DIA. CARRIAGE BOLTS)		Cut washers
Cut washers	8	Galv.	To fit sq. end (½" DIA. CARRIAGE BOLTS)		Cut washers
Clips	2	Galv.	1½"X1½"X18ga.X3½"		Clips
Nails	8	Galv.	3 Penny		Nails



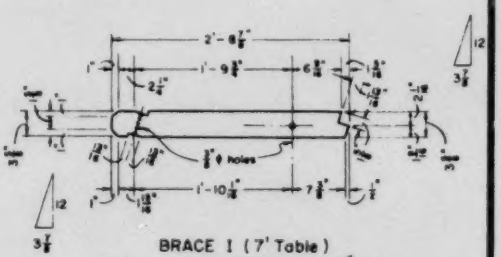
LEGS A
4" X 4" X 2'-9½" S4S
(2 as shown, 2 opp. hand)



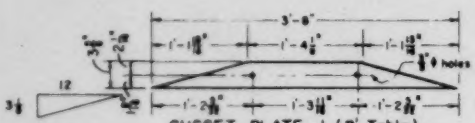
TOP LEG BRACE F
(Make 2 from 2"X4"X2'-11" S4S

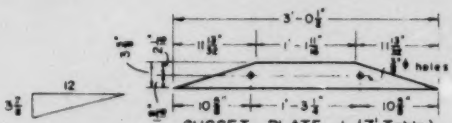


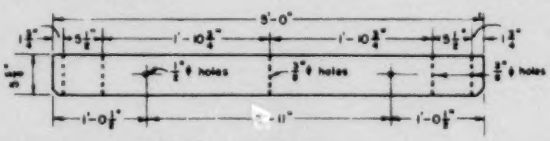
BRACE I (8' Table)
(Make 2 from 2"X4"X3'-2½" S4S)



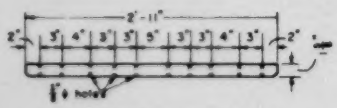
BRACE I (7' Table)
(Make 2 from 2"X4"X2'-8½" S4S)

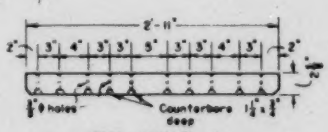


GUSSET PLATE J (8' Table)
(Make 2 from 1"X4"X3'-8" S4S)

GUSSET PLATE J (7' Table)
(Make 2 from 1"X4"X3'-0½" S4S)



SEAT CLEAT E
(Make 2 from 2"X6" X 5'-0" S4S)



TOP CENTER CLEAT H
(Make 1 from 2"X4"X2'-11" S4S)

TOP CLEAT G
(Make 2 from 2"X3"X2'-11" S4S)

SCS-472
6-63

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

LIGHT PLANK PICNIC TABLE

FROM ORIGINAL DESIGN BY
U. S. FOREST SERVICE

SHEET 2 OF 2

AG MECH SKILLAMAGIG

SKILLAMAGIG

A) Complete a plan sheet that will meet the following requirements: (design)

1. Materials to use:
   - A. 1 - 2 x 4 x 12"
   - B. 2 - 1 x 4 x 12"
   - C. 2 - wood screws
   - D. 3 - nails
   - E. Glue
2. Tools to use:
   - A. Hand saws (rip & crosscut)
   - B. Table saw
   - C. Drill press
   - D. Disc sander
   - E. Hand circular saw
   - F. Screwdriver
   - G. Nail Hammer
3. Skills to include:
   - A. Cut with hand saws
   - B. Cut angle on table saw
   - C. Rip on table saw
   - D. Cut dado
   - E. Sand a slight angle
   - F. Fastening with: (1) Glue (2) Nails (3) Glue
   - G. Use of drill press
   - H. Use of square
   - I. Use of hand circular saw

B) We will choose one of these plan sheets for the class to build (develop)

This works well to cause students to think about planning ahead on a project in wood skills. Students use all skills to incorporate in a project.

UTILITY BUILDING

Bill of Materials

No.	Description	Use
45	1 X 6 X 8	Floor - Front - Back
26	1 X 6 X 12	Roof
21	1 X 6 X 10	Sides
6	1 X 8 X 6	Door
2	2 X 4 X 14	Truss legs
5	2 X 4 X 12	Truss Hip
1	2 X 4 X 10	Braces
1	2 X 4 X 8	Braces
4	1 X 4 X 16	Gussets
5	Bundles Shingles	
4	4 X 4 X 10	Treated skids
2 pr.	6" hinges	
3 Pieces	10' Painted Steel Rake edge	
1 Piece	10' Painted Steel Drip edge	
1/3	Roll asphalt mineral roll for started shingle strip	
12	3/8 X 6"	Carriage Bolts - Door
12	3/8 X 2½	Carriage Bolts - Door
50	3/8 washer	Door

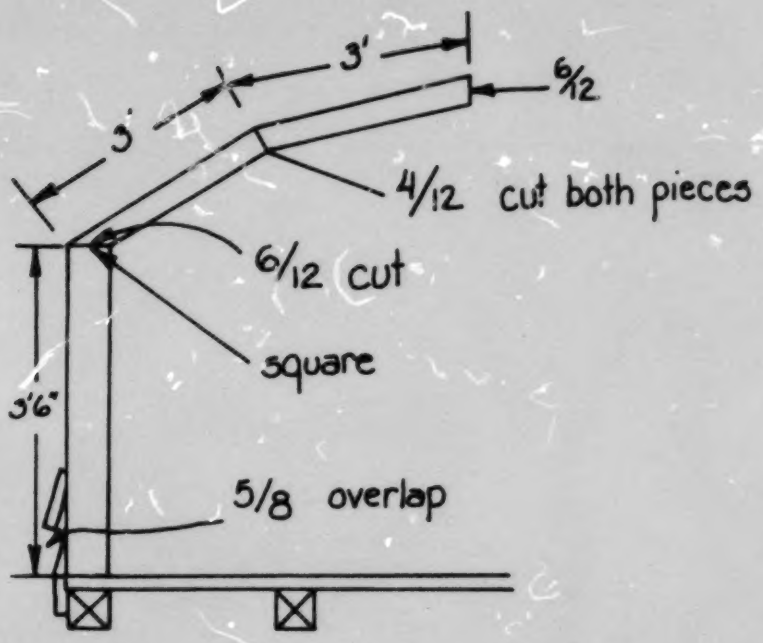
Information Sheet

Farm Carpentry

1. We use rough lumber and cut to dimension with a power hand saw. The power hand saw is the most often used tool of the builder - this is excellent practice. This task is also good practice in using the combination square and marking for accuracy.
2. All classes participate in building. I assign a crew in each class to a building. We usually build 4-6 buildings at a time. Cost $250.00. Sell for $350. which is $200-300 under commercial.
3. During the building project each crew is responsible for the following jobs:
    a. Squaring up a building site.
    b. Laying out batter boards
    c. Setting up the tripod transit-level.
    d. Square up a plot using the transit-level.
    e. Use the transit-level to mark out for a drainage ditch.
    f. Set a row of stakes to a specific altitude.

UTILITY BUILDING

Building Fact Sheet



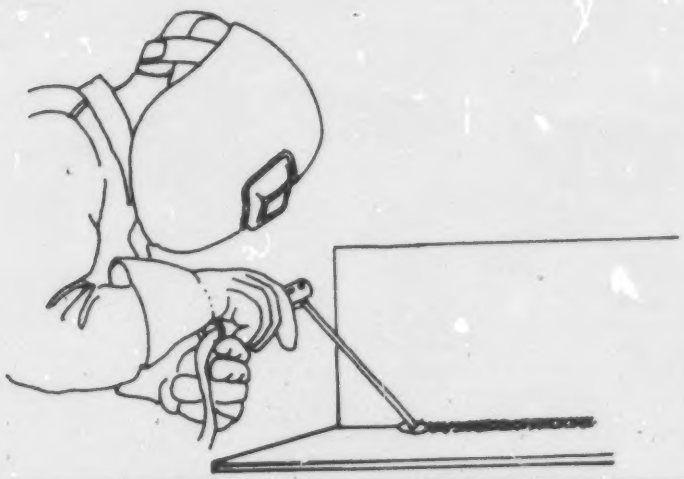
1. Use 1"x4"x1" pieces for gussets
2. Build the floor. Make an accurate lay out on the floor of the building and build all trusses. The front and back truss will require only one gusset on the inside.
3. Bring 1st siding piece down to overlap the 4x4 by ½. Overlap other pieces at least 5/8".

More information: Don Hanby
Ag Teacher
Cassadaga Valley C.S.
Sinclairville, N.Y. 14782
716 962-5155

785

DESIGNING A WELDING PROJECT

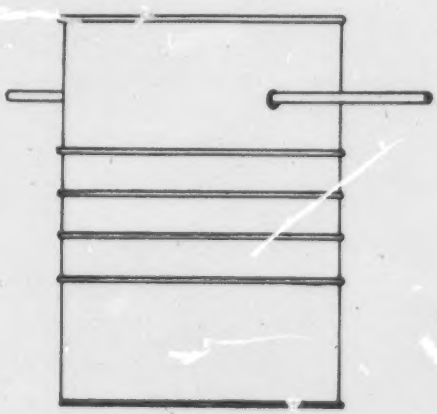
Once students have achieved minimum competency in welding, they design a welding project. Once the project is approved the students place appropriate welding symbols and complete the project. They are graded on how the project and the original design match up. Other grading criteria are: Quality of welds, overall finish of project and complexity of project. A farm trailer is worth more than a perfectly welded drawbar pin.



SCRAP HANDLING

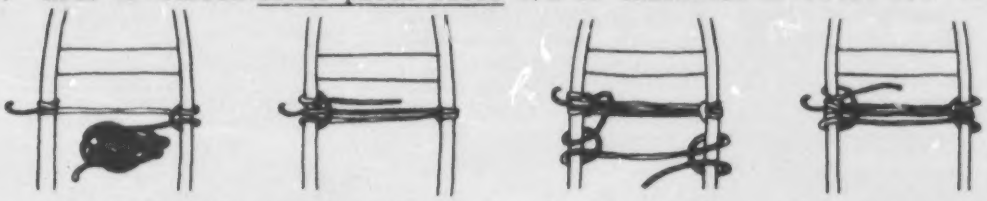
875

Take 50 gal. drum, put hole in each side and the top that a bar or pipe will fit through and use chain fall to lift it when full of scrap metal.

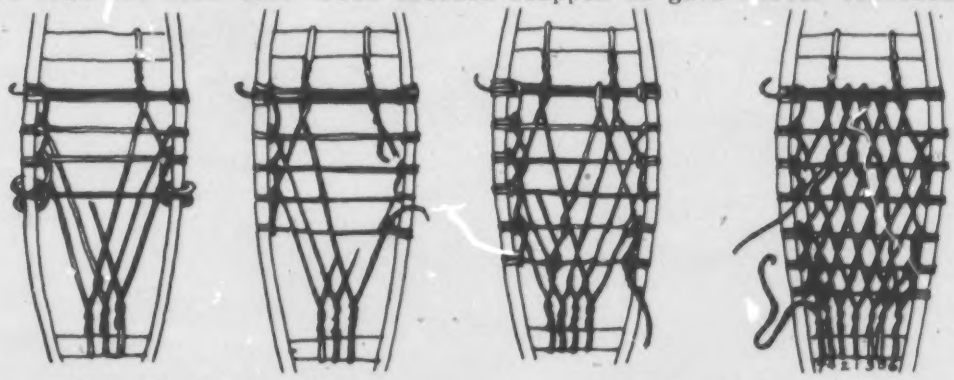


HOMEMADE SNOWSHOES

1. Decide on style for your needs.
2. Cut white or black ash 1" board 9 ft. long into 3/4" strip.
3. Reduce to 3/4" square.
4. Thin gradually toe and heel to 1/2" but not less than 3/8" for easier bending.
5. Rout or chisel cross piece slots 1/2 of thickness or about 3/8" deep.



6. Make 1 inch wide cross pieces and fit slot ends snug. Toe cross piece 11". Heel cross piece 7 1/2" need two each. Cut heel on slant each end.
7. Steam: in maple syrup smoke stack or homemade steamer for 1 hour. Takes about 10 minutes to bend slowly on jig. Leave to dry at least overnight - 1 week better. Bolt or rivet tail together.
8. Lace: can use rawhide, neoprene, nylon twine, etc.
9. Heel and toe lacings usually finer cord. Should be drilled holes in wood so will not wear out. Foot section wrapped to give better traction.



For complete details refer to:

The Snowshoe Book by William Osgood & Leslie Hurley; Stephen Green Press, Brattleboro, Vt.; 2nd ed. 1977, price: $4.95.

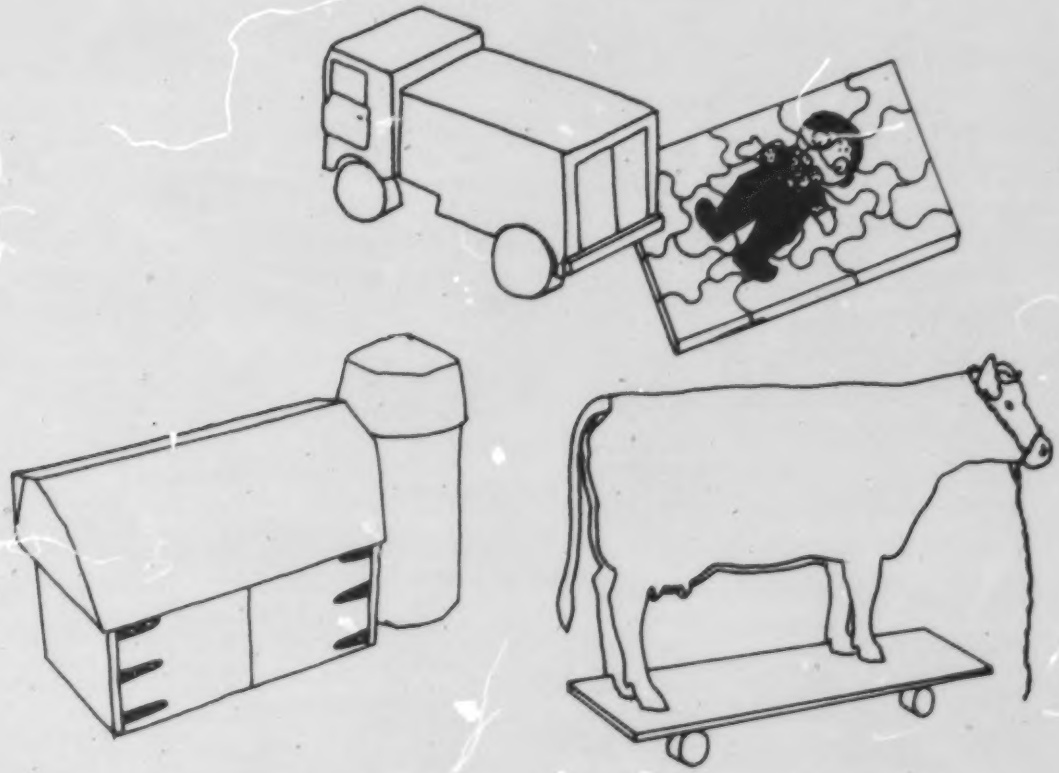
"Snowshoes" - NYS Conservationist, Dec. 1952-Jan. 1953 issue; article is well-illustrated and reprints are available through the Department of Environmental Conservation.

.50
36

CHRISTMAS TOY PROJECT

Each November every student in Agr I, Agr II, and Farm Mechanics is assigned a Christmas toy project. Each student is required to design and build a small wooden toy of his or her choice. All materials for the toys are provided by the school. When the toys are completed, they are presented to a local church group who distributes them to needy children in the area at Christmas.

Our students really enjoy doing the project. In addition to learning skills in woodworking, they develop a feeling of happiness in knowing that the completed project is going to make some less fortunate child happy at Christmas. Examples of projects are puzzles, cars, trucks, tractors, boats, guns, dart boards and hoop games.



111

MYSTERY WORD PUZZLE

Write the correct word for each definition in the spaces below. One letter goes in each space. The same letter can be used more than once. Then, complete the Mystery Word.

1. A material needed to promote plant growth.
2. A fuel that is produced by the decay of raw waste material.
3. A chemical used to control insect and plant populations.
4. The use of heat from the sun for drying of harvested crops.
5. A chemical substance necessary for the production of protein in plants.
6. The amount of a crop produced per unit of land.

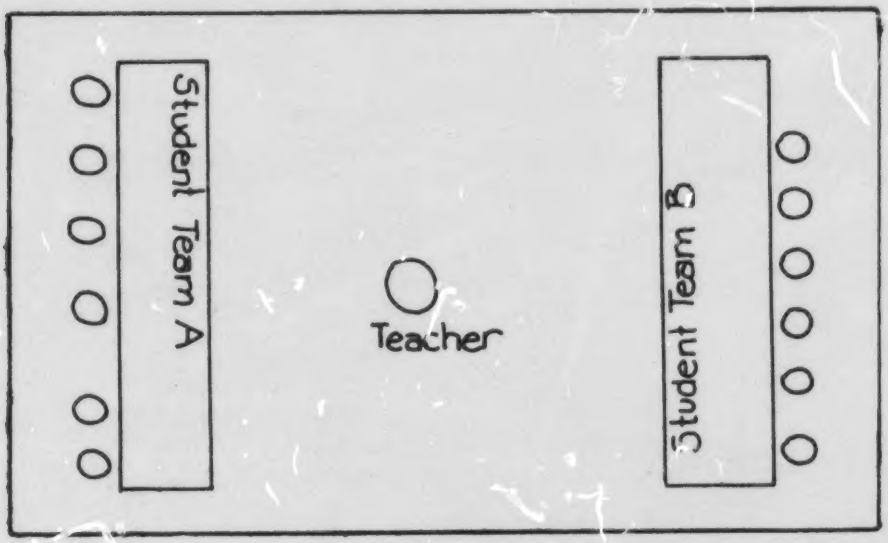
		Mystery Word
1.	_ _ _ _ _ _ _ _ _ _	1. 2nd letter in one
2.	_ _ _ _ _ _ _	2. 6th letter in two
3.	_ _ _ _ _ _ _ _ _	3. 2nd letter in three
4.	_ _ _ _ _ _ _ _ _ _ _	4. 5th letter in four (1st word)
5.	_ _ _ _ _ _ _ _	5. 1st letter in six
6.	_ _ _ _ _	6. 1st letter in six

Answer to Mystery Word:

1.	2nd letter in one	E
2.	6th letter in two	N
3.	2nd letter in three	E
4.	5th letter in four (1st word)	R
5.	6th letter in five	G
6.	1st letter in six	Y

HORTICULTURE BEE

Teacher asks question of 1 person on a team, if the person misses the answer, the question goes to the other side, the question goes back and forth until correctly answered. Team with most points wins.



200
15

Name _____

Date _____

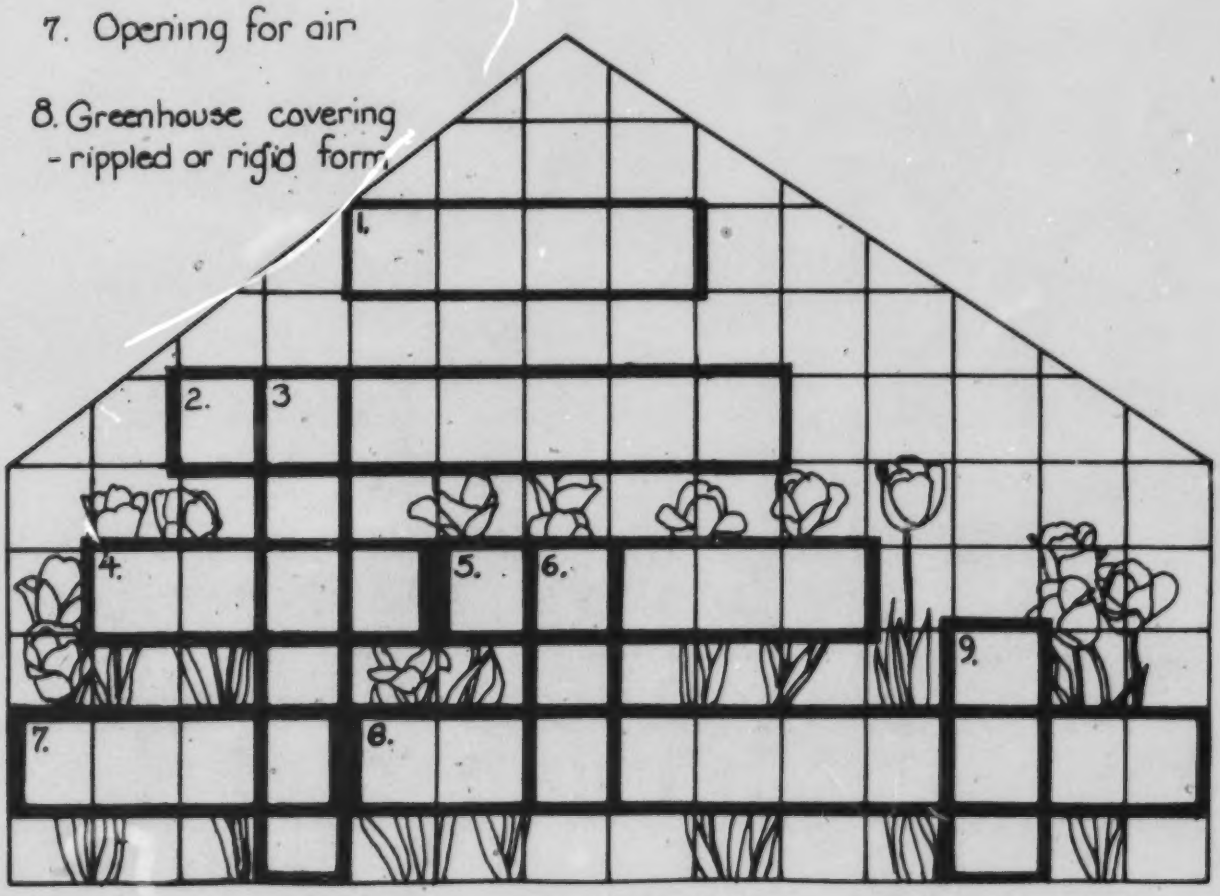
GREENHOUSE QUIZ

ACROSS

1. Used to water plants and is rolled up
2. Greenhouse covering measured in mils
4. Area between eaves
5. Greenhouse covering put in by panes
7. Opening for air
8. Greenhouse covering - rippled or rigid form

DOWN

3. Type of Greenhouse against a building
6. Greenhouse is a type of this
9. Used to Circulate air



GREENHOUSE QUIZ — KEY

ACROSS

1. Used to water plants and is rolled up
2. Greenhouse covering measured in mils
4. Area between eaves
5. Greenhouse covering put in by panes
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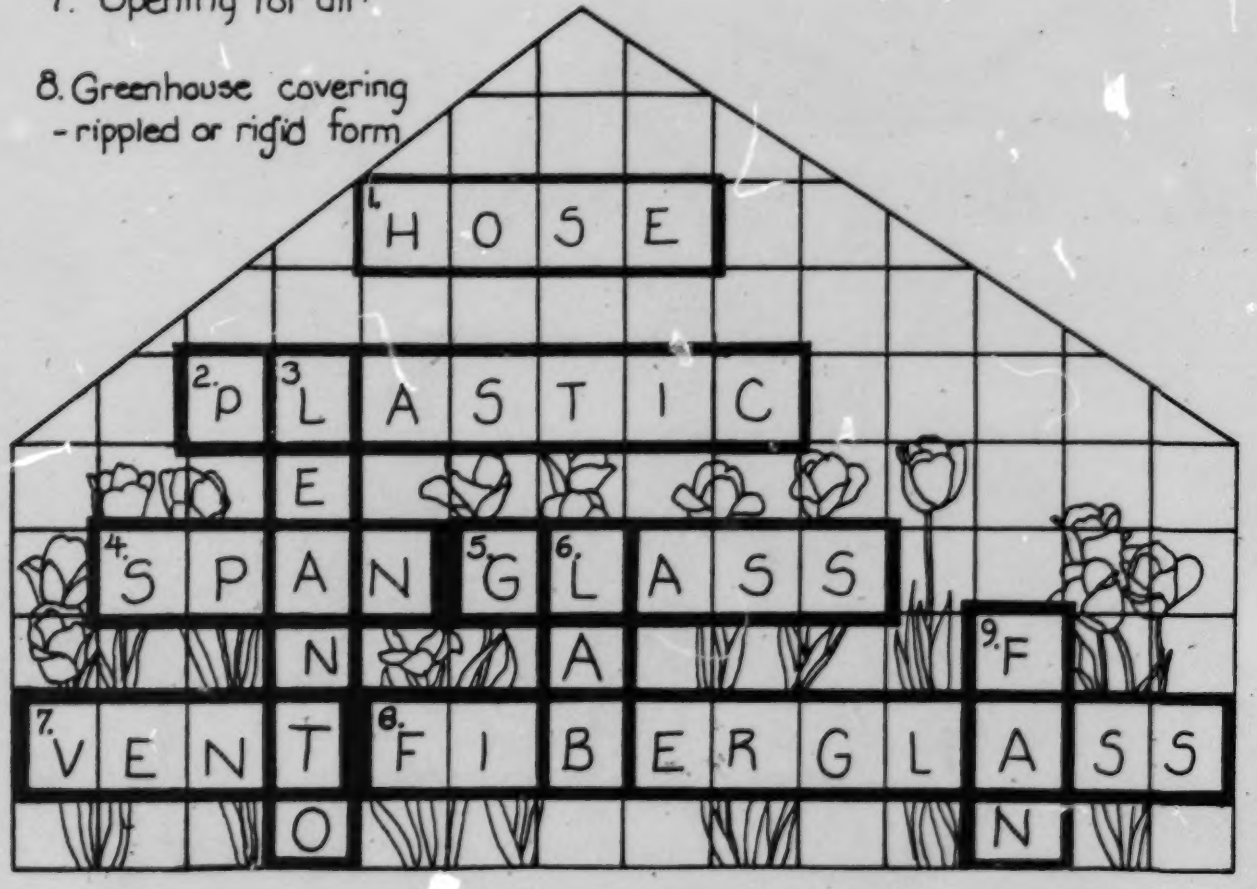
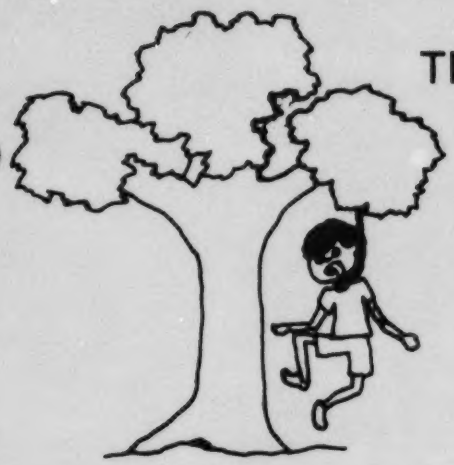
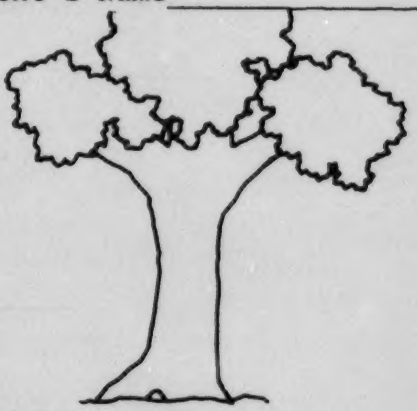


THE HANGMAN'S TREE



Student's Name _____



The Hangman's Tree

1) Head
2) Body
3) Right Arm
4) Left Arm
5) Right Leg
6) Left Leg

Directions:

This word game requires two students, one to take the test and one to give the clues and draw the parts of the figure.

The student giving the test should read all the clues. (No discussion please.) The student taking the test will ask if the word contains the letter __?__. If the letter is contained in the mystery tree word, the letter is used to construct the word to complete the last sentence.

Each part of the figure will be drawn for each incorrect suggestion. Follow numerical order.

If the student correctly spells out the mystery tree before all six parts are drawn the student beats the hangman.

Clues:

1) Deciduous Tree
2) Dark Grayish Brown Bark
3) Stout, Smooth, Shining, Brittle Twigs
4) Opposite, Compound Leaves
5) Wood used for furniture, tool handles and sporting goods

List of Tree Species:

Black Willow	Honey Locust
Black Walnut	American Larch
Hemlock	Shagbark Hickory
Red Oak	American Elm
Chestnut Oak	Chestnut
Hard Maple	Pin Cherry
Red Maple	Beech
White Ash	Paper Birch

* All these clues would indicate the Hangman's tree is a _____.

300
30

THE HANGMAN'S TREE — KEY

I) Setting:

This word game was developed to be used by conservation students in grades 9 through 12. The objective of this word game is to provide a tool for students to learn the names and characteristics of selected New York State trees.

II) Evaluation:

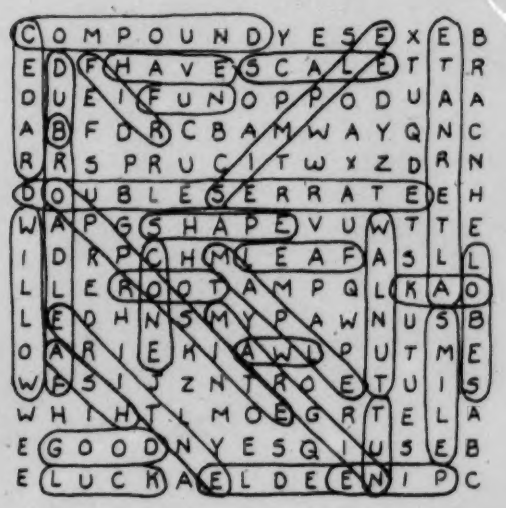
The assignment can be modified by giving different clues for each of the trees the teacher wants the students to learn. The exercise can be made easier by omitting the list of tree species or by leaving a blank space for each letter.

ANSWER:

All of these clues would indicate that the Hangman's Tree is a WHITE ASH.

300
33

BOTANY — KEY



BOTANY WORD SEARCH

Name _____

Date _____

Find the following 30 words and circle them in the puzzle below. They could be horizontal, vertical, or diagonal in the puzzle, backwards, and overlapping.

1. Cedar
2. Tree
3. Leaf
4. Margin
5. Nut
6. Oak
7. Needle
8. Root
9. Pine
10. Cone
11. Lobes
12. Entire
13. Broad leaf
14. Opposite
15. Alternate
16. Double serrate
17. Maple
18. Walnut
19. Simple
20. Compound
21. Shape
22. Scale
23. Bud
24. Fir
25. Awl
26. Ash
27. Willow
28. Good luck
29. Have fun
30. Smile !

C O M P O U N D Y E S E X E B
E D F H A V E C A L E T T R
D U E I F U N [illegible] P O D U A A
A B F D R C B A M W A Y Q N C
R R S P R U C I T W X Z D R N
D O U B L E S E R R A T E E H
W A P G S H A P E V U W T T E
I D R P C H M L E A F A S L L
L L E R O O T A M P Q L K A O
L E D H N S M Y P A W N U S B
O A R I E K I A W L P U T M E
W F S I J Z N T R O E T U I S
W H I H T L M O E G R T E L A
E G O O D N Y E S Q I U S E B
E L U C K A E L D E E N I P C

FARM ANIMALS

WORD SEARCH

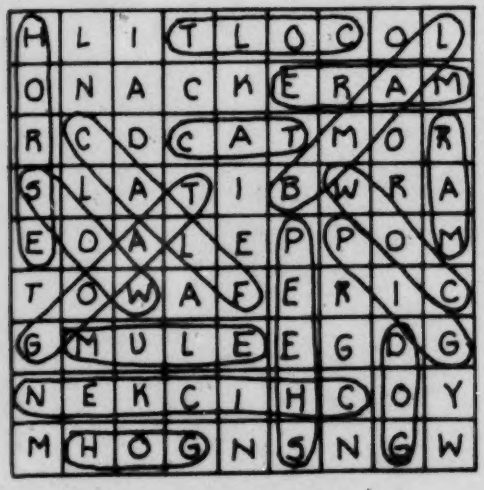
Name _____

Date _____

16 farm animals are hiding in this field. Can you find them all?

H	L	I	T	L	O	C	O	L
O	N	A	C	K	E	R	A	M
R	C	D	C	A	T	M	O	R
S	L	A	T	I	B	W	R	A
E	O	A	L	E	P	P	O	M
T	O	W	A	F	E	R	I	C
G	M	U	L	E	E	G	D	G
N	E	K	C	I	H	C	O	Y
M	H	O	G	N	S	N	G	W

Answer Key to Farm Animal Puzzle



119

400
20

Name _____

CATTLE PRODUCTION MATCHING

Directions:

Match the treatment to the ailment. Pick the best answer (letter) for each ailment. Treatments may be used as many times as you think is necessary.

1. ____ Pinkeye
2. ____ Ticks
3. ____ Pneumonia
4. ____ Shipping Fever
5. ____ Roundworm
6. ____ Bloat
7. ____ Ringworm
8. ____ Lice
9. ____ Bang's Diease
10. ____ Foot Rot

A) None

B) Bolus, Drench, Feed or Water Additive

C) Use stomach hose

D) Antibiotics and/or Vaccination

E) Powder or spray application use cover patch, keep out of sunlight

F) Paint exposures with solution

G) Body spray, cattle oilers, powder bags

H) Dip Box (Copper Sulfate)

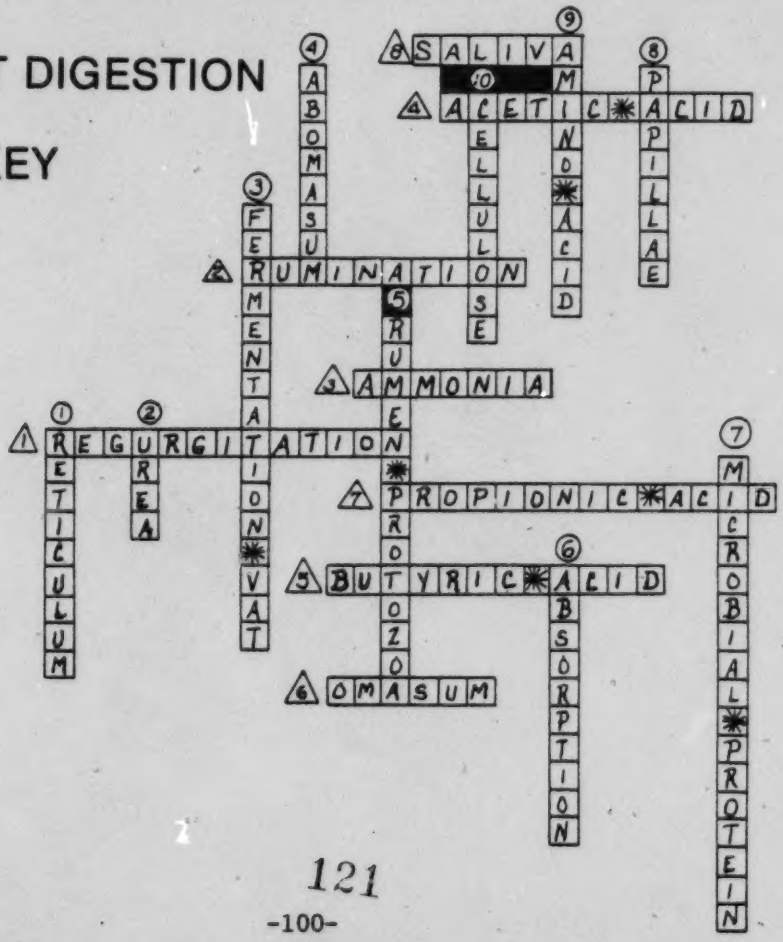
400
20

CATTLE PRODUCTION — KEY

1.	E	Pinkeye	A) None
2.	G	Ticks	B) Bolus, Drench, Feed or Water Additive
3.	D	Pneumonia	C) Use stomach hose
4.	D	Shipping Fever	D) Antibiotics and/or Vaccination
5.	B	Roundworm	E) Powder or spray application use cover patch, keep out of sunlight
6.	C	Bloat	
7.	F	Ringworm	F) Paint exposures with solution
8.	G	Lice	G) Body spray, cattle oilers, powder bags
9.	A	Bang's Disease	H) Dip Box (Copper Sulfate)
10.	H,F	Foot Rot	

400
57

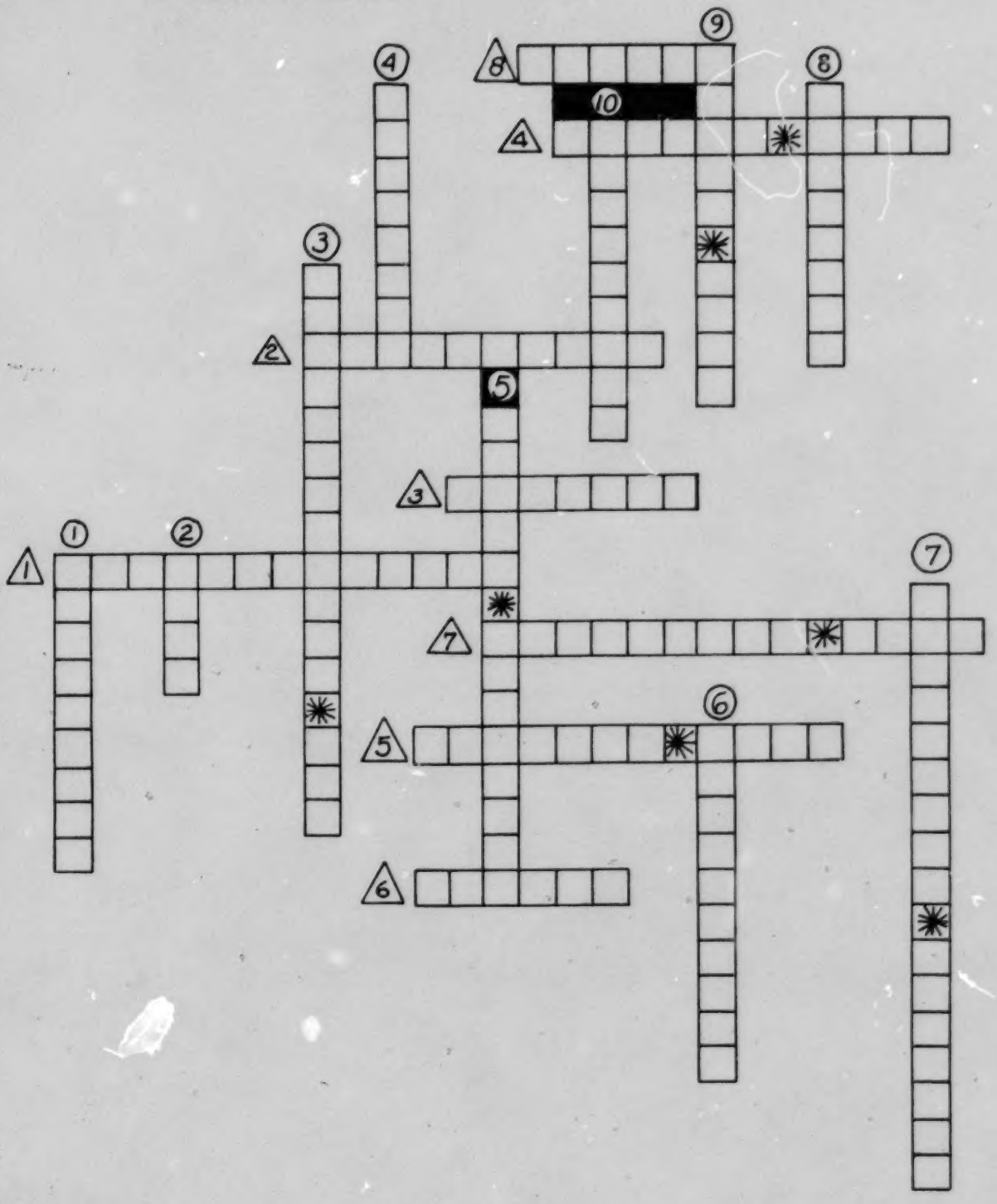
RUMINANT DIGESTION KEY



RUMINANT DIGESTION CROSSWORD

Name _____

Date _____



RUMINANT DIGESTION CROSSWORD

Down

① The stomach which catches hardware
② Non-protein nitrogen
③ Another name for the first stomach
④ True stomachs name
⑤ Bugs that aid in storage of carbohydrates and fiber breakdown
⑥ Word for "Taking nutrients into"
⑦ A product of rumen bugs that is digested in the abomasum
⑧ Finger-like projections in the small intestine
⑨ The building blocks for proteins
⑩ Another word for fiber, a woody fiber, hard to digest

Across

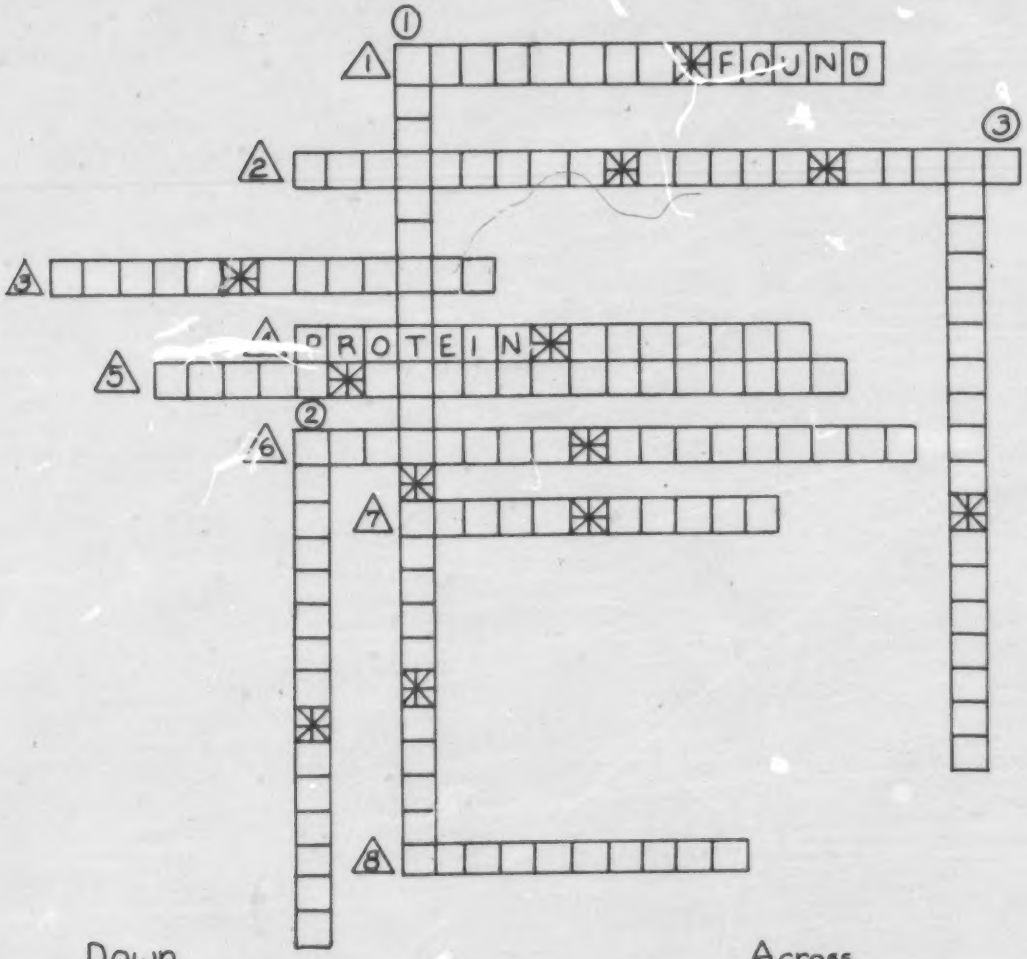
1. Reducing food into small particles, bringing up the cud
2. Process of bringing the cud up, breaking down and fermenting
3. A product formed when microorganisms break down protein and non-protein nitrogen
4. Most important fatty acid
5. Another important fatty acid
6. Stomach which absorbs fatty acids
7. Another fatty acid
8. Contains sodium bicarbonate to neutralize acids in the rumen

FEEDS AND FEEDING PROTEIN CROSSWORD

400/51

Name _____

Date _____



Down

① Type of protein building blocks that cows produce

② What amino acids are to protein

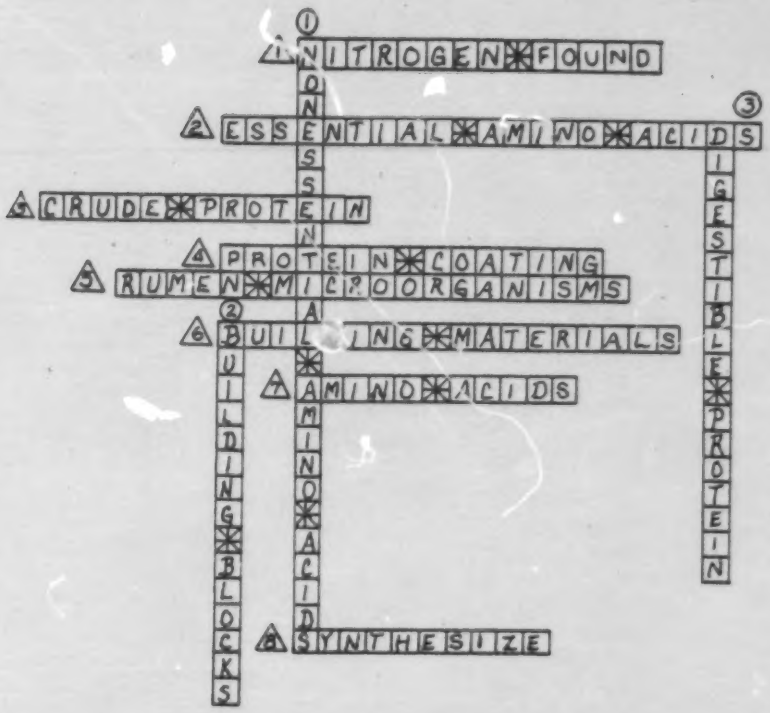
③ Term for protein that can be digested

Across

1. _____ found in feces × 6.25 equals amount of protein
2. Building blocks that cannot be made in the body
3. Protein in the feed stuff
4. Protein _____ is important in rumen by-pass of protein
5. Bugs that breakdown protein and cellulose
6. Protein Supplies _____ _____ to make body tissue and body regulators.
7. The building blocks of protein
8. Another word for the manufacture of protein

400
51

FEEDS AND FEEDING PROTEIN — KEY



400
51

ESSENTIAL AMINO ACIDS — KEY

P HENYLALANINE

V ALINE

T RYPTOPHAN

T HREONINE

I SOLEUCINE

M EHTIONINE

H ISTIDINE

A RGININE

L YSINE

L EUCINE

400
51

Name _____

ESSENTIAL AMINO ACIDS

Directions:

Listing the essential amino acids is a difficult task for any agricultural student, high school or college. Remembering the code words "Pvt Tim Hall" may help you memorize each of the essential amino acids. The first letter is given to you. Fill in the rest of the letters in the blank space provided.

P _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

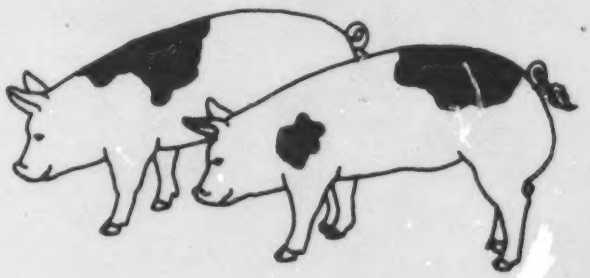
V _ _ _ _ _ _

T _ _ _ _ _ _ _ _ _ _

T _ _ _ _ _ _ _ _ _

I _ _ _ _ _ _ _ _ _ _

M _ _ _ _ _ _ _ _ _ _



H _ _ _ _ _ _ _ _ _

A _ _ _ _ _ _ _

L _ _ _ _ _ _

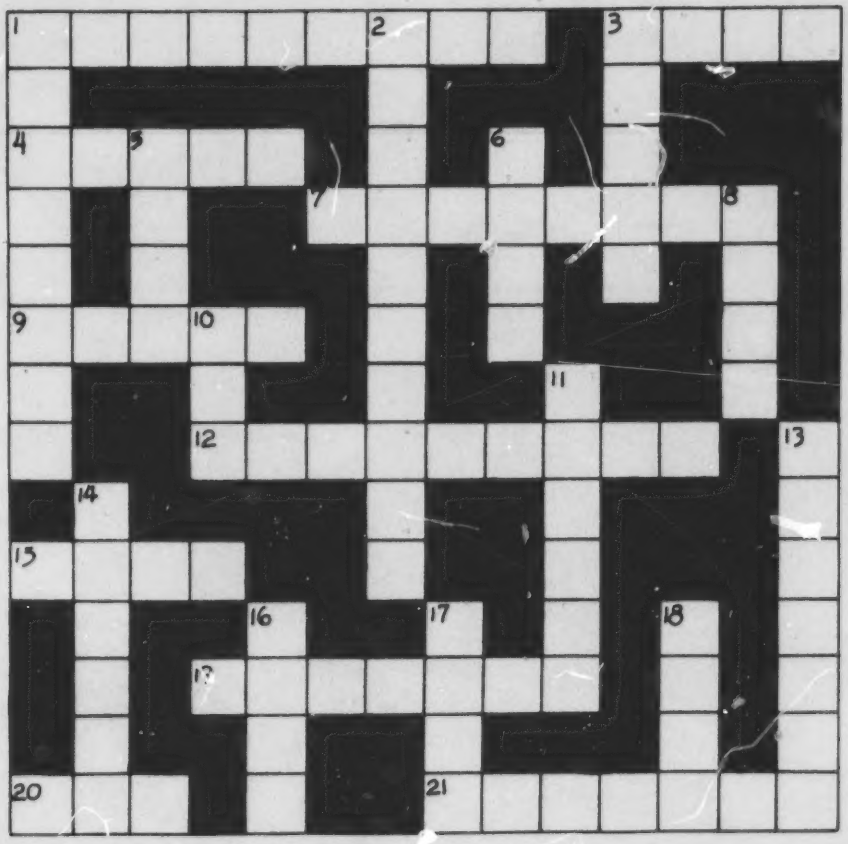
L _ _ _ _ _ _ _

Code Word: PVT (private) TIM HALL

DAIRYING CROSSWORD

Name _____

Date _____



Across

1. Natural fat of milk.
3. Dairy Herd Improvement Association (Abv.)
4. Mate individuals of different breeds.
7. Record of animals ancestors.
9. First and largest compartment of stomach.
12. Period from conception to calving.
15. Group of cattle.
19. Area where cattle graze.
20. Pink _____. (A disease)
21. Sugar in milk.

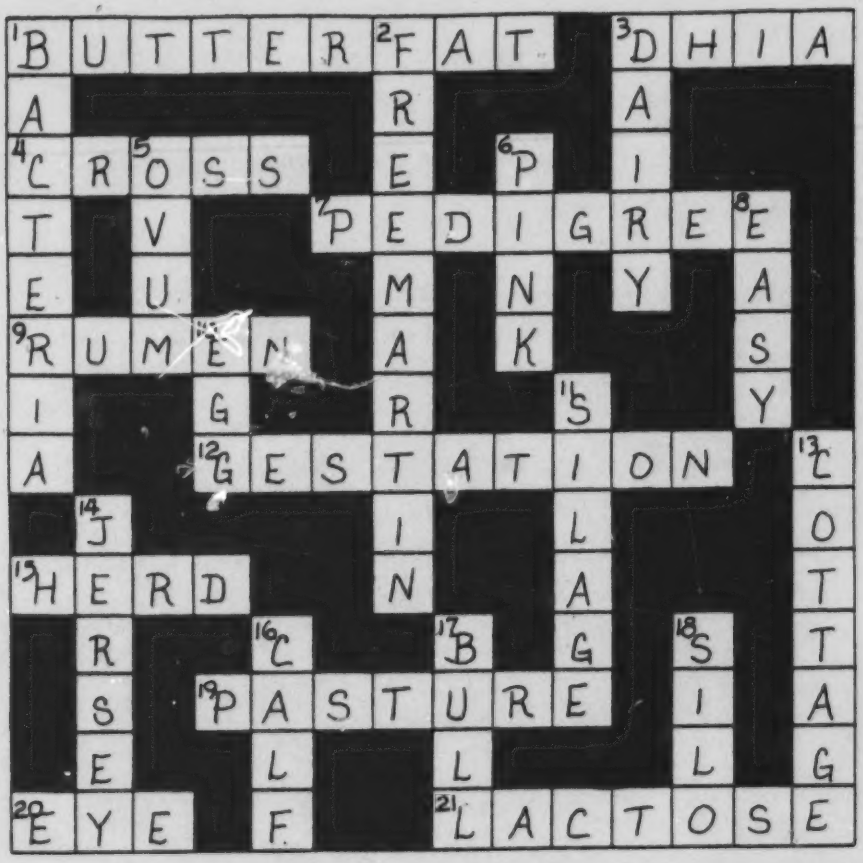
Down

17. Male animal
18. Storage facility for silage

Down

1. Microorganisms that must be controlled in milk.
2. Female calf born sterile as twin to male calf.
3. Farm where milk is produced.
5. Female reproductive cell.
6. _____ Eye. (A disease)
8. Not difficult to milk.
10. Female cell or ovum.
11. Type of feed for dairy cattle; usually stored in silo.
13. Type of cheese made from defatted pasteurized milk.
14. Smallest of dairy breeds.
16. Young cow or bull.

DAIRYING — KEY


1 B U T T E R 2 F A T 3 D H I A
A R A
4 C R 5 O S S E 6 P I
T V 7 P E D I G R E E 8
E U M N Y A
9 R U M E N A K S
I G R 11 S Y
A 12 G E S T A T I O N 13 C
14 J I L O
15 H E R D N A T
R 16 C 17 B G 18 S T
S 19 P A S T U R E I A
E L L L G
20 E Y E F 21 L A C T O S E

Across

1. Natural fat of milk.
3. Dairy Herd Improvement Association (Abv.)
4. Mate individuals of different breeds.
7. Record of animals ancestors.
9. First and largest compartment of stomach.
12. Period from conception to calving.
15. Group of cattle.
19. Area where cattle graze.
20. Pink _____. (A disease)
21. Sugar in milk.

Down

17. Male animal
18. Storage facility for silage

Down

1. Microorganisms that must be controlled in milk.
2. Female calf born sterile as twin to male calf.
3. Farm where milk is produced.
5. Female reproductive cell.
6. _____ Eye. (A disease)
8. Not difficult to milk.
10. Female cell or ovum.
11. Type of feed for dairy cattle; usually stored in silo.
13. Type of cheese made from defatted pasteurized milk.
14. Smallest of dairy breeds.
16. Young cow or bull.

DAIRY SPELLDOWN

Directions:

Two teams are used in this game. Each team stands in a row on either side of the room. A question is asked of first one side and then the other. If the question is not answered correctly, the student who was supposed to answer it drops out of the line and is seated. The question then is asked to the next person in the opposite team. There is an option of going back and forth until the question is answered or limiting each question to one person on each side. Answers should be explained well enough so each member can understand. Less difficult questions can be selected for lower-ability level students. Suggested questions and answers are listed below or the teacher may make up the questions.

Q) Most common Dairy breed in the U.S.?
A) Holstein

Q) Has long horns that turn upward?
A) Ayrshire

Q) The smallest dairy Breed?
A) Jersey

Q) First milk to be fed to the newborn calf?
A) Colostrum

Q) Adult female Bovine animal?
A) Cow

Q) Hay most commonly fed to cattle?
A) Alfalfa

Q) Another name for grain mix?
A) Concentrate

Q) The first of 4 stomach compartments in a cow?
A) Rumen

Q) Process needed for feed to be used in the body?
A) Digestion

Q) Grains furnish high quantities of_____?
A) Carbohydrates

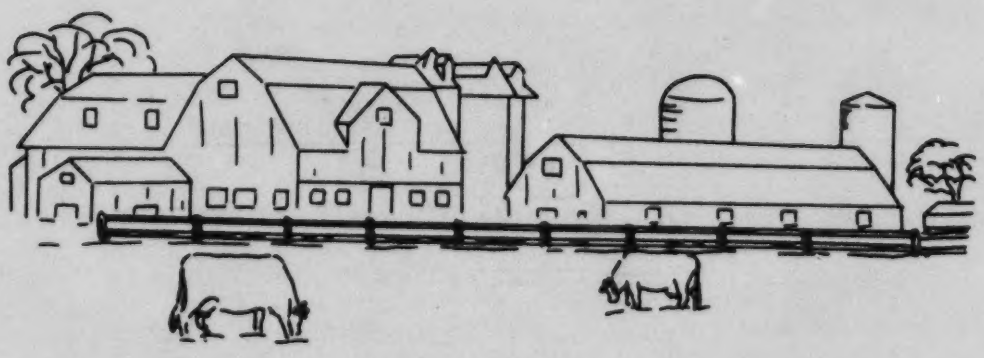
Name _____

DAIRY CATTLE MATCHING

Directions:

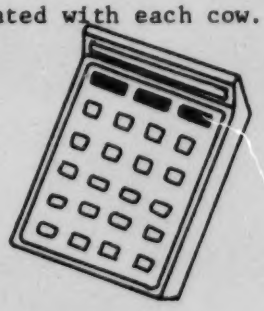
Match the word in the left column with the BEST answer in the right column. Draw a straight line to the correct match.

1.	Jersey	Most popular dairy breed
2.	Alfalfa	Group of cattle
3.	Calf	Breed with highest % of butterfat
4.	Holstein	Word for hay or silage
5.	Forage	Nature's most nearly perfect food
6.	Herd	Young dairy animal
7.	Calcium	Male Bovine
8.	Mild	Breed from Scotland
9.	Bull	Most common hay in New York
10.	Ayrshire	Mineral found in milk



COMPUTER GAME

1. Simulation games may be incorporated into classroom instruction to reinforce principles and concepts.
2. An example of this idea is the dairy production and management game which requires access to a computer.
    a) students purchase a herd of cows, not to exceed 50 in total number.
    b) computer is programmed to give each student a yearly report on their herd; students are responsible for making the following decisions:
        a. Cows to cull.
        b. Bulls to use as sires of replacement bulls.
        c. Cows from which bull calves are to be saved.
        d. Bulls to be progeny tested.
        e. Cows to be mated with progeny test bulls.
        f. Proven bulls to use as sires of replacement heifers.
        g. Cows to be mated with proven bulls.
        h. Which bull is to be mated with each cow.



3. This game is an example of how students learn to apply dairy management decisions. It is difficult to predict exactly what the computer will do to the herd each year which students enjoy. Although it is not a real-life situation, this game gives students an appreciation for the number of factors affecting the successful management of a dairy herd.

420/30

Name_____

BEEF BREEDS WORD SEARCH

On the puzzle below, the names of several breeds appear. The names may run in any direction: vertical, diagonal, horizontal, backwards and may even "cross" each other. Circle the words as you find them.

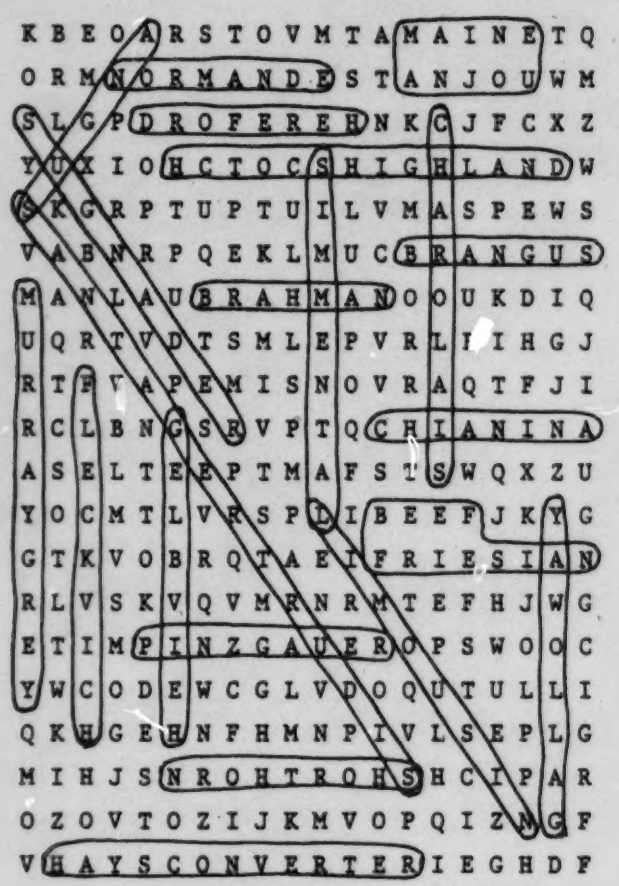
K B E O A R S T O V M T A M A I N E T Q
O R M N O R M A N D E S T A N J O U W M
S L G P D R O F E R E H N K C J F C X Z
Y U X I O H C T O C S H I G H L A N D W
S K G R P T U P T U I L V M A S P E W S
V A B N R P Q E K L M U C B R A N G U S
M A N L A U B R A H M A N O O U K D I Q
U Q R T V D T S M L E P V R L E I H G J
R T F V A P E M I S N O V R A Q T F J I
R C L B N G S R V P T Q C H I A N I N A
A S E L T E E P T M A F S T S W Q X Z U
Y O C M T L V R S P L I B E E F J K Y G
G T K V O B R Q T A E I F R I E S I A N
R L V S K V Q V M R N R M T E F H J W G
E T I M P I N Z G A U E R O P S W O O C
Y W C O D E W C G L V D O Q U T U L L I
Q K H G E H N F H M N P I V L S E P L G
M I H J S N R O H T R O H S H C I P A R
O Z O V T O Z I J K M V O P Q I Z N G F
V H A Y S C O N V E R T E R I E G H D F

BEEF BREEDS

Angus	Hereford	Pinzgauer
Brahman	Hays Converter	Gelbvich
Chianina	Beef Friesian	Red Angus
Charolais	Limousin	Shorthorn
Brangus	Maine Anjou	Simmental
Fleckvich	Normande	Santa Gertrudis
Galloway	Murray Grey	Scotch Highland

BEEF BREEDS — KEY

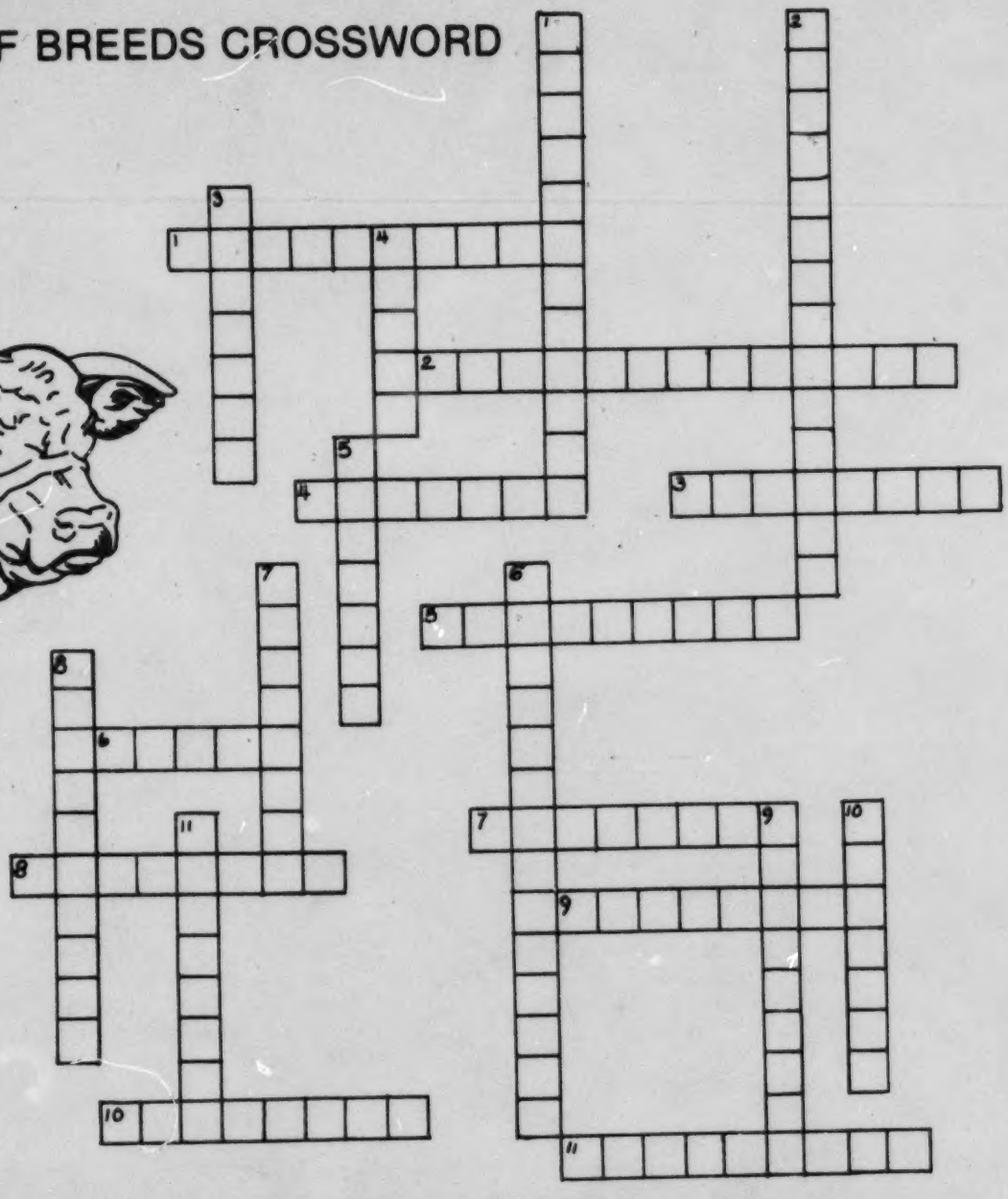
On the puzzle belw, the names of several breeds appear. The names may run in any direction: vertical, diagonal, horizontal, backwards and may even "cross" each other. Circle the words as you find them.


K B E O A R S T O V M T A M A I N E T Q
O R M N O R M A N D E S T A N J O U W M
S L G P D R O F E R E H N K C J F C X Z
Y U X I O H C T O C S H I G H L A N D W
S K G R P T U P T U I L V M A S P E W S
V A B N R P Q E K L M U C B R A N G U S
M A N L A U B R A H M A N O O U K D I Q
U Q R T V D T S M L E P V R L I I H G J
R T F V A P E M I S N O V R A Q T F J I
R C L B N G S R V P T Q C H I A N I N A
A S E L T E E P T M A F S T S W Q X Z U
Y O C M T L V R S P D I B E E F J K Y G
G T K V O B R Q T A E I F R I E S I A N
R L V S K V Q V M R N R M T E F H J W G
E T I M P I N Z G A U E R O P S W O O C
Y W C O D E W C G L V D O Q U T U L L I
Q K H G E H N F H M N P I V L S E P L G
M I H J S N R O H T R O H S H C I P A R
O Z O V T O Z I J K M V O P Q I Z N G F
V H A Y S C O N V E R T E R I E G H D F

BEEF BREEDS

Angus	Hereford	Pinzgauer
Brahman	Hays Converter	Gelbvich
Chianina	Beef Friesian	Red Angus
Charolais	Limousin	Shorthorn
Brangus	Maine Anjou	Simmental
Fleckvich	Normande	Santa Gertrudis
Galloway	Murray Grey	Scotch Highland

BEEF BREEDS CROSSWORD



KEY

ACROSS

1. Beefmaster
2. Hay's Converter
3. Limousin
4. Brahman
5. Charolais
6. Devon
7. Red Angus
8. Galloway
9. Hereford

DOWN

1. Beef Freisian
2. Polled Hereford
3. Beefalo
4. Angus
5. Brangus
6. Santa-Gertrudis
7. Chianina
8. Maine-Anjou
9. Shorthorn
10. Red Poll
11. Holstein

BEEF BREEDS

DOWN

1. A breed whose native land is the Netherlands. This breed is predominately black and white and was bred for both milk and meat. It was imported to America in 1971.

2. This English breed was formed in 1901 in Iowa. A red hornless breed with a white face.

3. This is very new breed. It is a hybrid of Buffalo, Charolais and Hereford.

4. This is a very black breed that also has a black skin. This breed is noted for its meat production. It is smaller in size than most.

5. This is a Hybrid from Brahman and Angus.

6. This is Hybrid breed from Shorthorn and Brahman.

7. Italy is the native land of this beef breed. It is also the largest breed in the world.

8. This is a French breed that is dark red with white underpinning. This breed has an exceptionally high milking ability.

9. This is an English breed that is usually roan color but sometimes white. This breed has both a milking and a beef variety.

10. This is an English breed that is noted for its mothering ability. This breed is red and hornless.

11. This is a black and white animal with excellent milking ability. In fact this animal is the most popular in New York State, for milking.

ACROSS

1. This breed is a hybrid of hereford, Shorthorn and Brahman.

2. This is the only breed entirely developed by the Canadian's.

3. This is a French breed that has a red-gold color and is medium sized but long bodied. Many colleges are presently using this breed for research.

4. This breed is a hybrid of Indian breeds and English breeds. It has been used as a breed for many hybrid developments.

5. This is a French breed that is large in size and long bodied. The color of this animal is very light straw to white.

6. This is an English breed that is very dark brown with white horns. This breed is often called "red rubies."

7. This English breed is a direct descendant of the purebred Aberdeen Angus. It retains all the predominate characteristics except the color.

8. This Scottish breed was flourishing in the U.S. until a tragic train wreck and a fire in Chicago during the 1950's. This black breed has long soft hair and a gentle disposition.

9. This English breed has a red coat and a white face, crest, breast, and belly. The mature bulls weigh on the average 1,840 and the cows on the average 1,200.

10. This is a breed of beef that is commonly thought of as a Texas animal. This animal has very long horns.

11. This Swiss breed is yellowish brown to dark red. The first registered bull was born in 1974 in America.

SWINE BUBBLEGRAM

Name _____

To solve this puzzle read the definition below. Think of a word which has to do with a farm animal which fits the definition, has the same number of letters as the number of spaces given and has the given letter in the same position as indicated. Write the word on the dotted line.

1. F _ _ _ _ _ _ _ _ _ _
2. _ _ a _ _
3. _ _ _ _ _ _ r
4. _ _ r _ _
5. _ _ o _ _
6. _ _ w _ _ _ _
7. _ _ i _ _ _
8. _ _ _ _ _ _ n _ _
9. g _ _ _ _ _ _ _ _ _ _

Definitions

1. the process of giving birth in swine
2. uncastrated male swine
3. consisting of more than one birth
4. meat of swine
5. mature female swine
6. short-legged omnivorous mammals with a thick bristly skin and a long snout.
7. a young female swine
8. latin-related to swine
9. from conception to giving birth / swine - 113 days or (3 months, 3 weeks, 3 days)

440

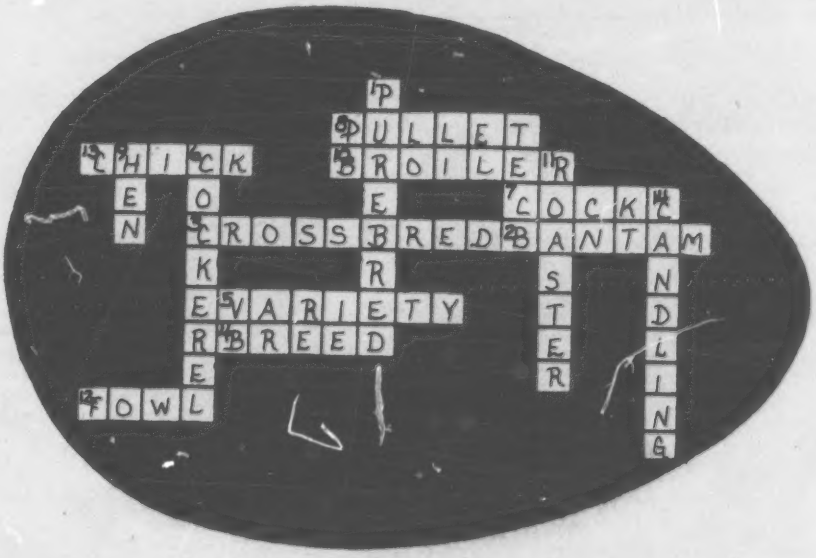
SWINE — KEY

1. Farrowing
2. Boar
3. Litter
4. Pork
5. Sow
6. Swine
7. Gilt
8. Porcine

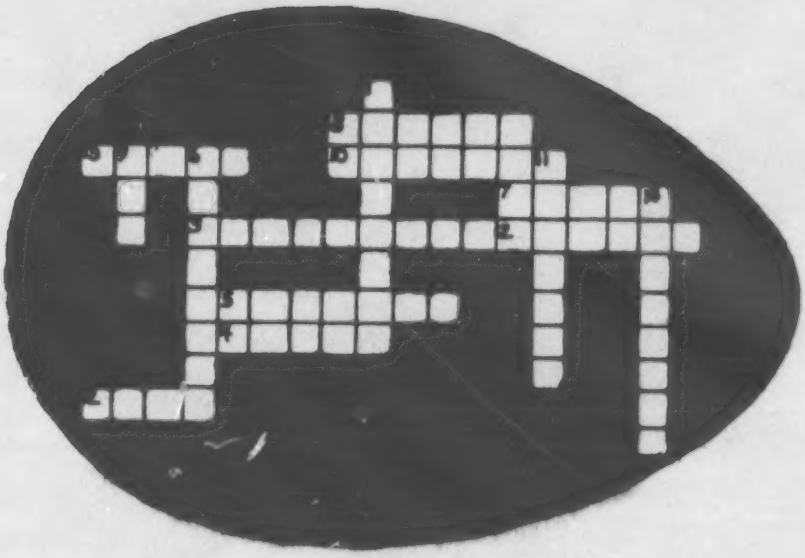
Gestation

450

EGG — KEY



EGG CROSSWORD



Across

2 A small-size bird
3 Parents which are not same class, breed and variety
4 Is determined by the size and shape of bird
5 Is determined by the comb type for the feather pattern
7 A male bird more than one year old
8 A female bird less than one year old
10 A bird 8 to 12 weeks of age to be used in a cookery
12 A bird over 24 weeks of age to be used in cookery
13 A young, sexually immature bird

Down

1 Descended from same breed, class and variety
6 A male bird less than one year old
9 A female bird more than one year old
11 A bird 12 to 24 weeks or age to be used in cookery
14 To determine the condition of the egg

460/00

HORSE WORD SEARCH

Name _____

H O R S E M A N S H I P O A M A R E Q
O R A N Q U A R T E A L I A M E N X U
P R E T U Y T D I I B E C N D E C F A
Y A P O T S P A N S B A Y G T H O P R
E L D D A S I T L J P S S K P O L O T
M I N T T O B A L K E U N X A T T N E
O N O O I V W X A Y L R A Z L A B Y R
R A I W O U T S T R H E F R O A N Q H
G I L E N G L I S H A L F M M N O P O
A B C S K J I H T G M F L E I D C F R
N A T T O S S I R E D E E M N A B I S
O R Y E X H O L I D A Y R H O R N L E
K A E R B G E L D I N G X R O A M L E
N O O N T R I M E R M E R R Y C E Y O
E N O N R A B R U C A N T L E E X O X
E L D I R B I R E K A F A R R I E R M
R E N I A R T O C K C A T R E A T O O
M O U N T I N G O I N N O I L L A T S

1. Horsemanship
2. Equitation
3. English
4. Western
5. Pleasure
6. Pinto
7. Paint
8. Bay
9. Stride
10. Polo
11. Gelding
12. Pony
13. Draft
14. Break
15. Arabian
16. Palomino
17. Quarter Horse
18. Saddle
19. Horn
20. Cantle
21. Knee
22. Farrier
23. Tack
24. Foal
25. Filly
26. Colt
27. Curb
28. Roan
29. Barn
30. Stall
31. Mounting
32. Mare
33. Stallion
34. Race
35. Balk
36. Sire
37. Dam
38. Morgan
39. Snaffle
40. Pelham

460
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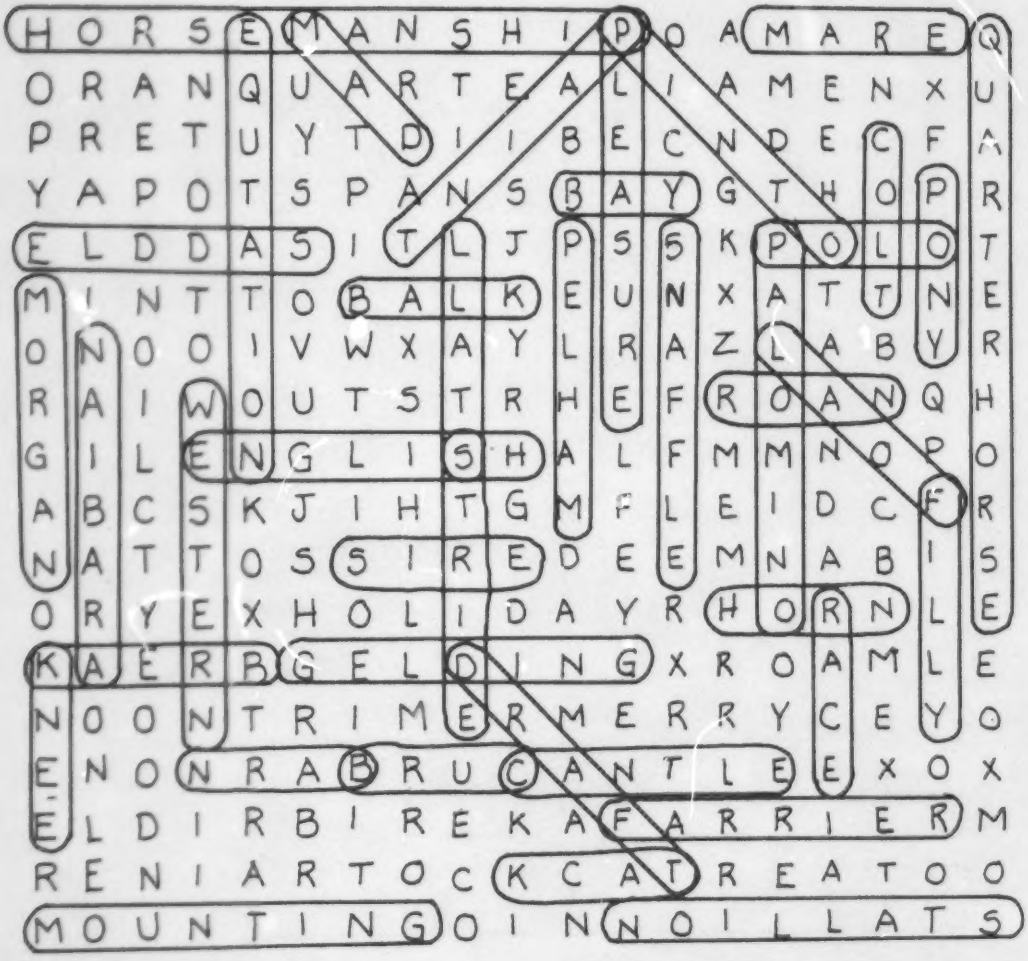
HORSE — KEY



1. Horsemanship
2. Equitation
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32. Mare
33. Stallion
34. Race
35. Balk
36. Sire
37. Dam
38. Morgan
39. Snaffle
40. Pelham

HORSE TERMS WORD SEARCH

Name _____

Date _____

Find the horse terms in the puzzle - some clues are listed at the bottom. Look sideways, up and down, and backwards to find them all.

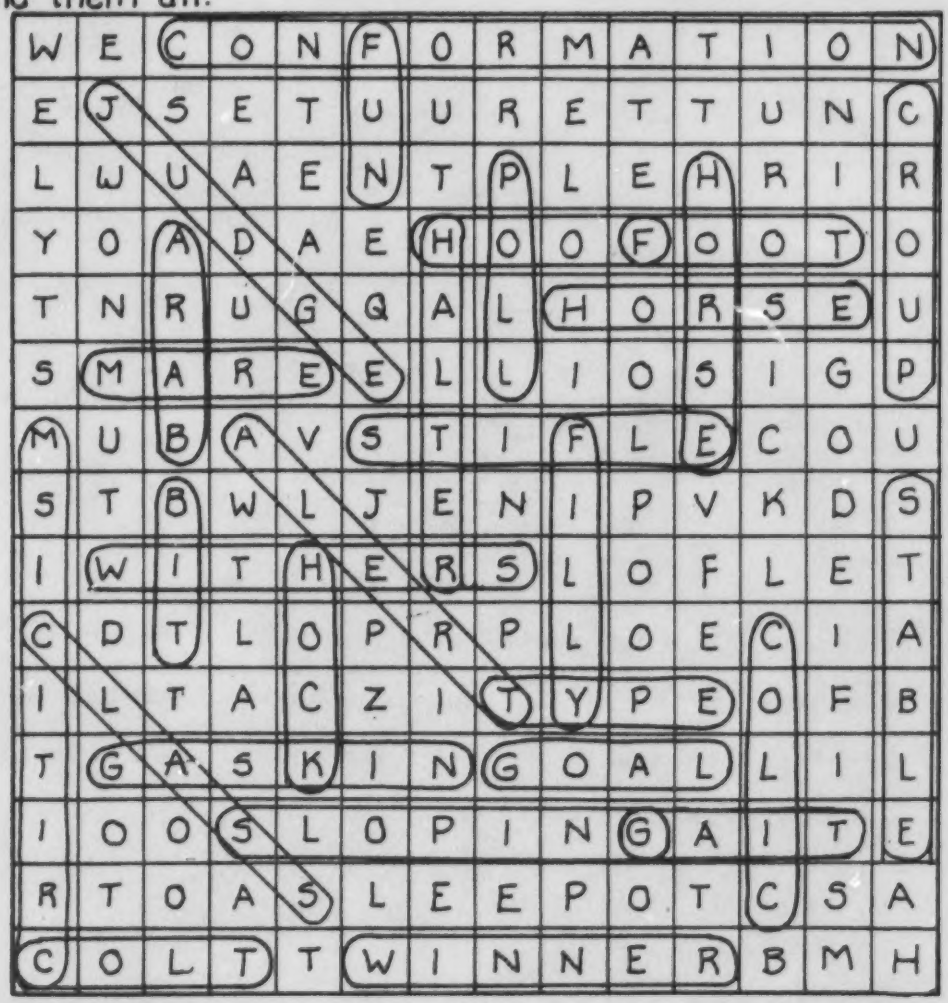
W	E	C	O	N	F	O	R	M	A	T	I	O	N
E	J	S	E	T	U	U	R	E	T	T	U	N	C
L	W	U	A	E	N	T	P	L	E	H	R	I	R
Y	O	A	D	A	E	H	O	O	F	O	O	T	O
T	N	R	U	G	Q	A	L	H	O	R	S	E	U
S	M	A	R	E	E	L	L	I	O	S	I	G	P
M	U	B	A	V	S	T	I	F	L	E	C	O	U
S	T	B	W	L	J	E	N	I	P	V	K	D	S
I	W	I	T	H	E	R	S	L	O	F	L	E	T
C	D	T	L	O	P	R	P	L	O	E	C	I	A
I	L	T	A	C	Z	I	T	Y	P	E	O	F	B
T	G	A	S	K	I	N	G	O	A	L	L	I	L
I	O	O	S	L	O	P	I	N	G	A	I	T	E
R	T	O	A	S	L	E	E	P	O	T	C	S	A
C	O	L	T	T	W	I	N	N	E	R	B	M	H

clues: (Note: more words can be found in the puzzle than are listed below)

withers	poll	hoof	horse	criticism	mare
bit	filly	stifle	croup	class	foot
hock	conformation	judge	gaskin	type	gait
halter	alert	arab	head	sloping	colic

HORSE TERMS — KEY

Find the horse terms in the puzzle - some clues are listed at the bottom. Look sideways, up and down, and backwards to find them all.



W	E	C	O	N	F	O	R	M	A	T	I	O	N
E	J	S	E	T	U	U	R	E	T	T	U	N	C
L	W	U	A	E	N	T	P	L	E	H	R	I	R
Y	O	A	D	A	E	H	O	O	F	O	O	T	O
T	N	R	U	G	Q	A	L	H	O	R	S	E	U
S	M	A	R	E	E	L	L	I	O	S	I	G	P
M	U	B	A	V	S	T	I	F	L	E	C	O	U
S	T	B	W	L	J	E	N	I	P	V	K	D	S
I	W	I	T	H	E	R	S	L	O	F	L	E	T
C	D	T	L	O	P	R	P	L	O	E	C	I	A
I	L	T	A	C	Z	I	T	Y	P	E	O	F	B
T	G	A	S	K	I	N	G	O	A	L	L	I	L
I	O	O	S	L	O	P	I	N	G	A	I	T	E
R	T	O	A	S	L	E	E	P	O	T	C	S	A
C	O	L	T	T	W	I	N	N	E	R	B	M	H

clues: (Note: more words can be found in the puzzle than are listed below)

withers	poll	hoof	horse	criticism	mare
bit	filly	stifle	croup	class	foot
hock	conformation	judge	gaskin	type	gait
halter	alert	arab	head	sloping	colic

Name_____

HORSE BUBBLEGRAM

Scrambled words in Horse Sense

Directions:

Unscramble the following words by use of the clues at the bottom of the page. Write the correct word in the space provided. The circled letters in each word will spell out a message.

1) SROEH _ _ _ _ _

2) QEENUI _ _ _ _ _ _

3) DLEGGIN _ _ _ _ _ _ _

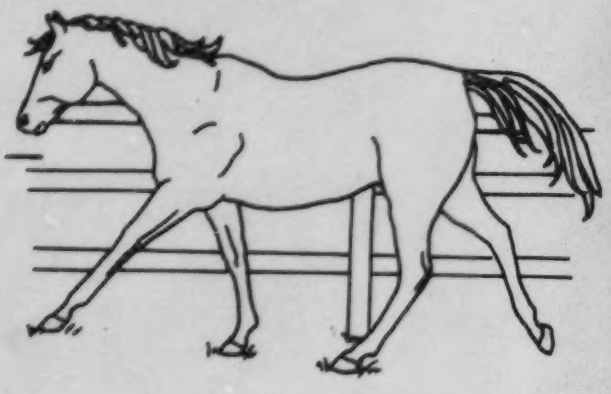
4) REMA _ _ _ _

5) LOTC _ _ _ _

6) LFAO _ _ _ _

7) LIFLY _ _ _ _ _

8) NLSITALO _ _ _ _ _ _ _ _



The circled letters spell out the words: RIDE / TALL

Clues:

1) A large solid-hoofed mammal used for draft, riding, or sport.

2) All members of the family equidac - horses, zebras, and asses.

3) A male horse that was castrated before reaching maturity.

4) A mature female four years or older.

5) A young male horse under three years of age.

6) A young unweaned horse of either sex.

7) A young female horse under three years of age.

8) A male horse four years old or over.

DOG TERMS WORD SEARCH

Name_____

Date_____

DOGS

Circle the words you find in the puzzle below and write them down. Words may be found vertically horizontally, diagonally, and backwards.

1.
2.
3.
4.
5.
6.
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8.
9.
10.
11.
12.
13.
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22.
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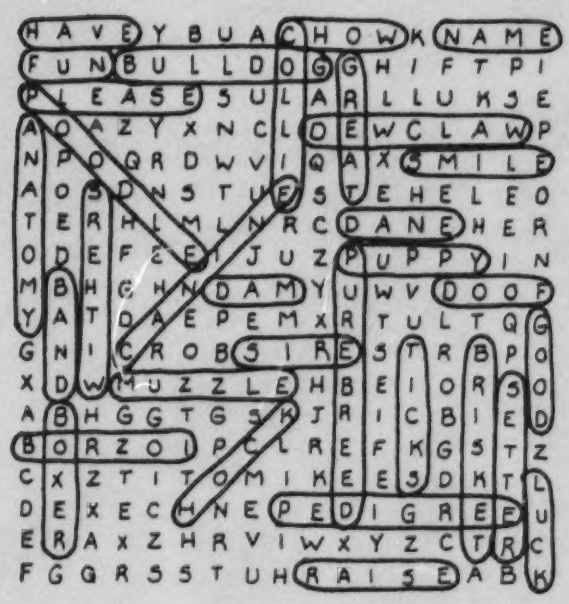
24.
25.
26.
27.
28.
29.
30.

H A V E Y B U A C H O W K N A M E
F U N B U L L D O G G H I F T P I
P L E A S E S U L A R L L U K S E
A O A Z Y X N C L D E W C L A W P
N P O Q R D W V I Q A X S M I L E
A O S D N S T U E S T E H E L E O
T E R H L M L N R C D A N E H E R
O D E F E E I J U Z P U P P Y I N
M B H G H N D A M Y U W V D O O F
Y A T D A E P E M X R T U L T Q G
G N I C R O B S I R E S T R B P O
X D W M U Z Z L E H B E I O R S O
A B H G G T G S K J R I C B I E D
B O R Z O I P C L R E F K G S T Z
C X Z T I T O M I K E E S D K T L
D E X E C H N E P E D I G R E E U
E R A X Z H R V I W X Y Z C T R C
F G Q R S S T U H R A I S E A B K

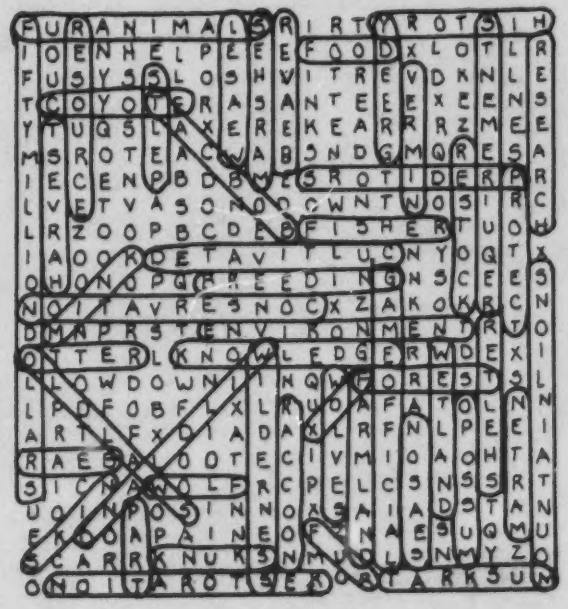
472

DOG TERMS — KEY



577

CONSERVATION — KEY



CONSERVATION WORD SEARCH

Name _____

F U R A N I M A L S R I R T Y R O T S I H
I O E N H E L P E E E F O O D X L O T L R
F U S Y S S L O S H V I T R E V D K N L E
T C O Y O T E R A S A N T E E E X E E N S
Y T U Q S L A X E R E K E A R R R Z M E E
M S R O T E A C W A B S N D G M Q R E S A
I E C E N P B D B M E S R O T I D E R P R
L V E T V A S O N O D O W N T N O S I R C
L R Z O O P B C D E B F I S H E R T U O H
I A O O K D E T A V I T L U C N Y O Q T X
O H O N O P Q B R E E D I N G N S C E E S
N O I T A V R E S N O C X Z A K O K R C N
D M N P R S T E N V I R O N M E N T R T O
C T T E R L K N O W L E D G E R W D E X I
L L O W D O W N J I N Q W F O R E S T S L
L P D F O B F L X L R U O A F A T O L N N
A R T L F X D I A D A X L R F N L P E E I
R A E B A L O O T E C I V M I O A O H T A
S I C N A W O L F R C P E L C S N S S R T
U O I N P O S I N N O X S A I A D S T A N
E K D O A P A I N E O F Z N A E S U Q M U
S C A R R K N U K S N M U D L S N M Y Z O
O N O I T A R O T S E R O R T A R K S U M

1. Fur Animals
2. Fifty million dollars
3. Resources
4. C[illegible]te
5. Weasel
6. Pelts
7. Muskrat
8. Restoration
9. Skunk
10. Skin
11. Wildland
12. Old Laws
13. Bear
14. Otter
15. Fox
16. Mountain Lions
17. Research
18. Preditors
19. Greedy
20. Marshes
21. Wolves
22. Fur
23. Fisher
24. Bobcat
25. Beaver
26. Mink
27. Cultivated
28. Breeding
29. Conservation
30. Restock
31. Environment
32. Wetlands
33. Forest
34. Wolf
35. Wilderness
36. History
37. Food
38. Harvest
39. Requirements
40. Protect
41. Marten
42. Farmland
43. Raccoon
44. Season
45. Opossum
46. Shelter Requirements
47. Game Official
48. Trap
49. Knowledge
50. Vermin

FIELD EQUIPMENT WORD SEARCH

Name _____

Find the following 45 words which are hidden in the puzzle below. They could be listed in any of six directions, horizontally, vertically and diagonally, and backwards.

1. mold board
2. disc
3. harrow
4. spring tooth
5. chisel plow
6. packerwheel
7. diesel
8. gasoline
9. tractor
10. PTO
11. hitch pin
12. wagon
13. chopper
14. row crop
15. haybine
16. mower
17. crimper
18. crusher
19. windrower
20. drill
21. spreader
22. drags
23. baler
24. blower
25. hydraulic
26. Knives
27. v belt
28. forage
29. cultivator
30. roller pump
31. sprayer
32. hopper
33. seeder
34. boom
35. hose
36. coupling
37. throttle
38. plow
39. coulter
40. furrow
41. elevator
42. auger
43. tank
44. conveyor
45. seed plate

B A L E R O T C A R T Y R S B L O W E R
A F G S R F U R R O W Z A B R A X I S A
S O A G D E C U C I T W U X R Y C N E K
P R L A G S F S I H M B M O O B H D E R
R A B R I I G H E D S P R A Y E R R D O
I G B D I E S E L N Q A E W E Z E O P T
N E H Q S F K R J O H P A R V G T W L A
G F E N I L O S A G N A C E N B L E A V
T E C P H O T P L A N M Y V O D U R T E
O P O R C W O R D W J I F B C H O S E L
O D I O J S E E D E R I L U I M C A C E
T K N I V E S A P U K C I P O N E T I E
H A R R O W Z D R I I H L T U N E H L H
B U N N I Z R E G F R O O P Q O E R U W
K G J K V I Y R S H W P T P R P C O A R
N E X M L W H I T C H P I N P U W T R E
I R O L L E R P U M P E R Q Y E O T D K
V B E L T K D A C L S R M Z N X R L Y C
E C K L U B E D R A O B D L O M F E H A
C H I S E L P L O W E E H W R E K C A P

FIELD EQUIPMENT — KEY

Find the following 45 words which are hidden in the puzzle below. They could be listed in any of six directions, horizontally, vertically and diagonally, and backwards.

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2. disc
3. harrow
4. spring tooth
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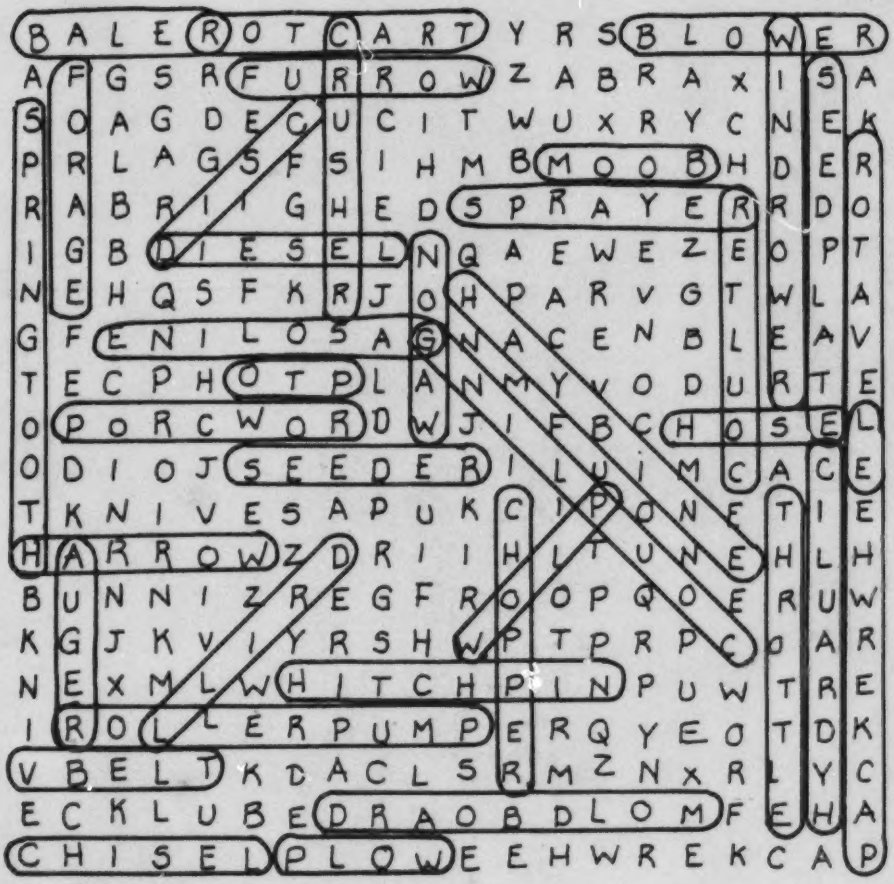
6. packerwheel
7. diesel
8. gasoline
9. tractor
10. PTO
11. hitch pin
12. wagon
13. chopper
14. row crop
15. haybine
16. mower
17. crimper
18. crusher
19. windrower
20. drill
21. spreader
22. drags
23. baler
24. blower
25. hydraulic
26. Knives
27. v belt
28. forage
29. cultivator
30. roller pump
31. sprayer
32. hopper
33. seeder
34. boom
35. hose
36. coupling
37. throttle
38. plow
39. coulter
40. furrow
41. elevator
42. auger
43. tank
44. conveyor
45. seed plate



AG ENERGY WORD SEARCH

A	C	G	P	E	S	T	E	O	R
I	R	A	G	N	O	A	C	P	A
F	O	S	S	I	L	F	U	E	L
E	P	O	U	T	A	O	D	S	E
R	D	L	N	R	R	O	O	T	G
T	R	I	D	O	O	D	R	I	U
I	Y	N	A	G	E	S	P	C	M
L	I	E	N	E	R	G	Y	I	E
I	N	T	O	N	S	E	E	D	S
Z	G	M	E	T	H	A	N	E	A
E	M	A	C	H	I	N	E	R	Y
R	O	T	A	T	I	O	N	Y	E

Hidden in this puzzle are 16 words. These words apply to agriculture or the use of energy in agriculture. Find the word, circle it. Words can be read horizontally and vertically.

AG ENERGY — KEY

A	C	G	P	E	S	T	E	O	R
I	R	A	G	N	O	A	C	P	A
F	O	S	S	I	L	F	U	E	L
E	P	O	U	T	A	O	D	S	E
R	D	L	N	R	R	O	O	T	G
T	R	I	D	O	O	D	R	I	U
I	Y	N	A	G	E	S	P	C	M
L	I	E	N	E	R	G	Y	I	E
I	N	T	O	N	S	E	E	D	S
Z	G	M	E	T	H	A	N	E	A
E	M	A	C	H	I	N	E	R	Y
R	O	T	A	T	I	O	N	Y	E

TOOLS WORD SEARCH

Name_____

Date _____

Find the following 35 words which are hidden in the puzzle below. They could be listed in any of six directions horizontally, vertically and diagonally, and backwards.

1. chisel
2. punch
3. open end
4. combination
5. SAE
6. metric
7. standard
8. socket
9. deep well
10. ratchet
11. box
12. valve (compressor)
13. hacksaw
14. extension bar
15. square drive
16. flex handle
17. slotted screwdriver
18. slide bar
19. phillips
20. hex setscrew
21. six point
22. twelve point
23. eight point
24. universal
25. stud remover
26. hydraulic jack
27. press
28. timing light
29. tin snips
30. pliers
31. ignition wrench
32. file
33. puller
34. reamer
35. ring (compressor)

H B G S T U D R E M O V E R T D S Z F P
Y D B W T T F N T O T B D E W R L K L H
D E X T E N S I O N B A R I E A O H E I
R E H O A R T G F O R D D G L D T A X L
A P C E P U N C H I R J B H V N T C H L
U W N I R E S A N R E U O T E A E K A I
L E E G E E N G T T A S X P P T D S N P
I L R H S E A E M S M T A O O S S A D S
C L W T S A B A N S E X B I I S C W L A
J U N P C E M T E D R G L H N P R W E H
A R O O G E V L A V L O E S T I E O S E
C T I I N O I T A N I B M O C N W R I X
K S T N E Y B R D E G R I C S S D M X S
C N I T I M I N G N H E D K B N R D P E
H N N S P T I P M I T S R E E I I R O T
I A G R U N I V E R S A L T R T V I I S
S V I O L U L A T P L I E R S A E V N C
E I R H L N O I R A N T R Y U B R E T R
L F I L E L S L I D E B A R S Q U A R E
U S V L R L I J C L S T E H C T A R S W

TOOLS — KEY

Find the following 35 words which are hidden in the puzzle below. They could be listed in any of six directions horizontally, vertically and diagonally. and backwards.

1. chisel
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3. open end
4. combination
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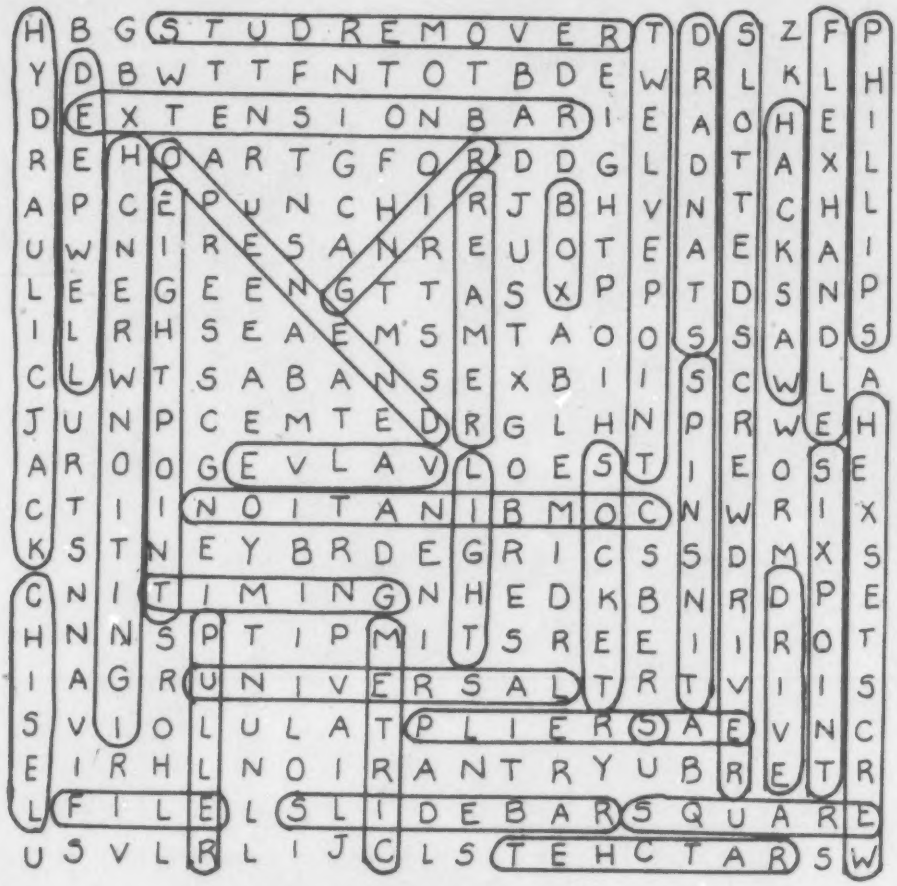
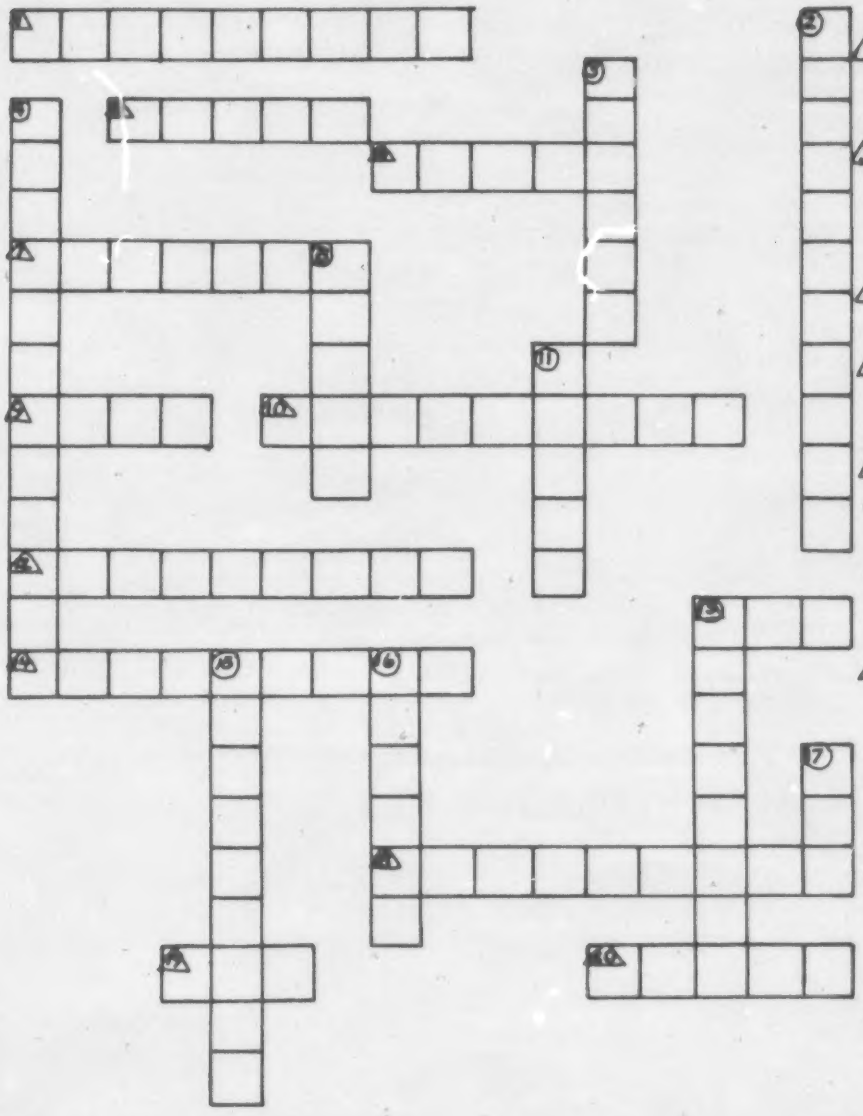
13. hacksaw
14. extension bar
15. square drive
16. flex handle
17. slotted screwdriver
18. slide bar
19. phillips
20. hex setscrew
21. six point
22. twelve point
23. eight point
24. universal
25. stud remover
26. hydraulic jack
27. press
28. timing light
29. tin snips
30. pliers
31. ignition wrench
32. file
33. puller
34. reamer
35. ring (compressor)


H B G S T U D R E M O V E R T D S Z F P
Y D B W T T F N T O T B D E W R L K L H
D E X T E N S I O N B A R I A O H E I
R E H O A R T G F O R D D G L T A X L
A P C E P U N C H I R J B H V E N H I
U W N I R E S A N R E U O T E T C A L
L E E G E E N G T T A S X P D K S N I
I L R H S E A E M S M T A O O S A D P
C L W T S A B A N S E X B I S W L S
J U N P C E M T E D R G L H N C R E A
A R T O O G E V L A V L O E S T I W O H
C T I I N O I T A N I B M O C S N R E X
K S T N E Y B R D E G R I C S S D M X S
C N I T I M I N G N H E D K B N R D E
H N N S P T I P M I T S R E E I R I T
I A G R U N I V E R S A L T R T V I S
S V I O L U L A T P L I E R S A E N C
E I R H L N O I R A N T R Y U B R E T R
F I L E L S L I D E B A R S Q U A R E
U J V L R L I J C L S T E H C T A R S W

OXYACETYLENE WELDING CROSSWORD

Name_____
Date_____



Across

1. The flame that burns in the torch body with a shrill noise
5. Attached to hoses and used to seat welding tip or cutting head
6. This will affect the quality of the cut
7. Should be left on the acetylene tank valve, in case of fire
9. Hose
10. Used to adjust line pressure
12. Unstable, explosive gas with foul odor
13. Filler metal
14. What may occur if acetylene line is set above 15 psi.
18. This must be set up, maintained and operated safely
19. This permits accurate control of the flame
20. The _____ of the bead should be no greater than two times the diameter of the rod

Down

2. A weld flame caused by a greater amount of acetylene than oxygen
3. Formed from melted metal
4. A weld flame resulting from an equal mixture of oxygen and acetylene
8. Twin lines for carrying gases to the torch
11. Controls the flow of gases
13. The first step in learning to control this torch, the puddle and the rod
15. A flame which results from too much oxygen
16. A colorless, odorless gas
17. To pierce metal, to bevel it, to separate it

OXYACETYLENE WELDING — KEY

Across

1. Flash
5. Torch
6. Speed
7. T-Wrench
9. Line
10. Regulator
12. Acetylene
13. Rod
14. Explosion
18. Equipment
19. Tip
20. Width

Down

2. Carburizing
3. Puddle
4. Neutral-Flame
8. Hoses
11. Valve
13. Runabead
15. Oxidizing
16. Oxygen
17. Cut

AC WELDING — KEY

785

Across

1. Flux
2. Undercut
5. Arc
6. Splatter
12. Cover
13. Freezing
15. Angle
17. Slag
19. Ground
20. Scratch

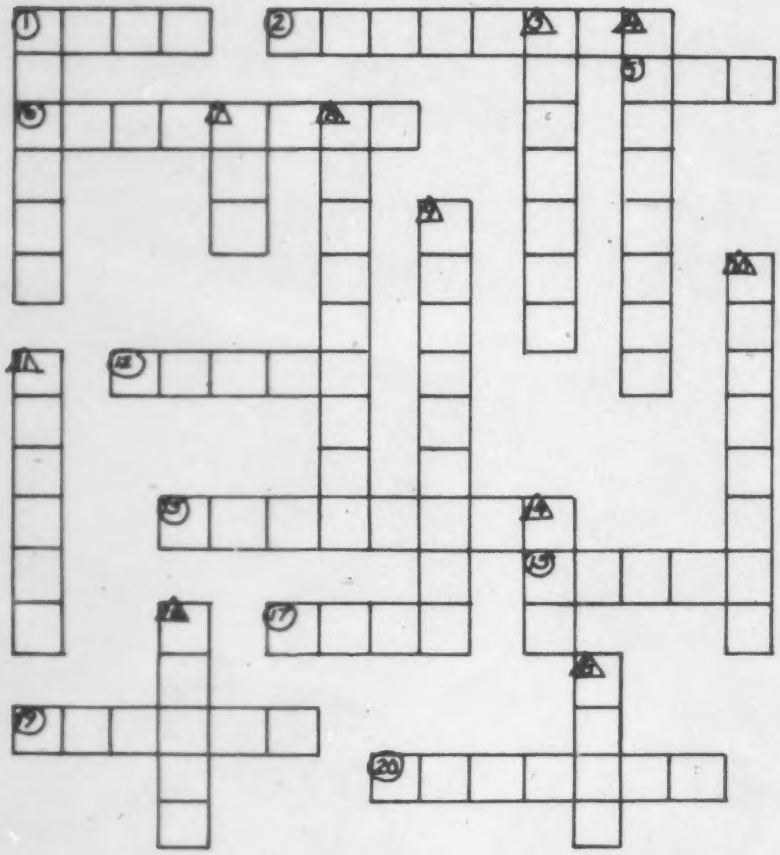
Down

1. Fusion
3. Current
4. Tackweld
7. Tap
8. Electrode
9. Crackling
10. Diameter
11. Canvas
14. Gap
16. A burn
18. Butt

AC WELDING CROSSWORD

Name_____

Date _____



Across

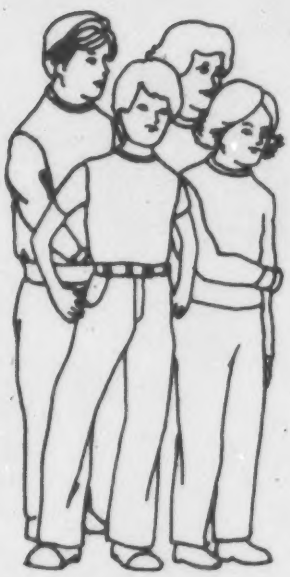
1. The coating around the electrode is called _____
2. A burning into the metal on either side of a weld
5. Electric welding is also called _____ welding
6. Splashes of metal from ac welding are called _____
12. What you should say to warn onlookers when you are about to strike an arc!
13. When the electrode sticks to the metal being welded, this is called _____
15. The electrode is held at an 85° _____ for a running bead
17. This must be chipped from the metal to see the weld
19. This is clamped to the welding table or work
20. One method used for striking an arc

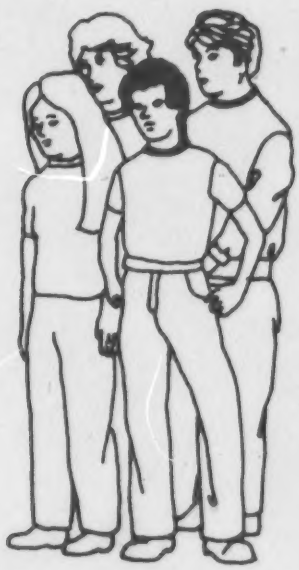
Down

1. Melting together
3. Amperage
4. A small weld used to hold ends of metal together so pieces will not move
7. Another method for striking an arc
8. The filler rod used for ac welding
9. The sound made during welding which indicates correct arc length
10. The width of the gap is equal to the _____ of the electrode
11. A material welding curtains may be made of
14. The _____ is important when doing an open butt weld
16. This will happen if you pick up hot metal with your bare hands
18. A weld in which two pieces of metal lying side by side are welded together.

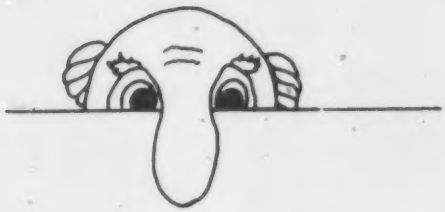
SHOP CLEAN-UP — BY TEAMS

1. Assign different areas of the shop to be cleaned up by teams of 2 to 3 students.
2. Allow 30 - 40 minutes for teams to complete their task.
3. At the end of the time limit, evaluate the clean up in all areas.
4. Thank the teams and pass out awards.
5. Awards should be established that are appropriate to the assigned tasks and in accordance with school policies.





CARTOONS FOR SAFETY

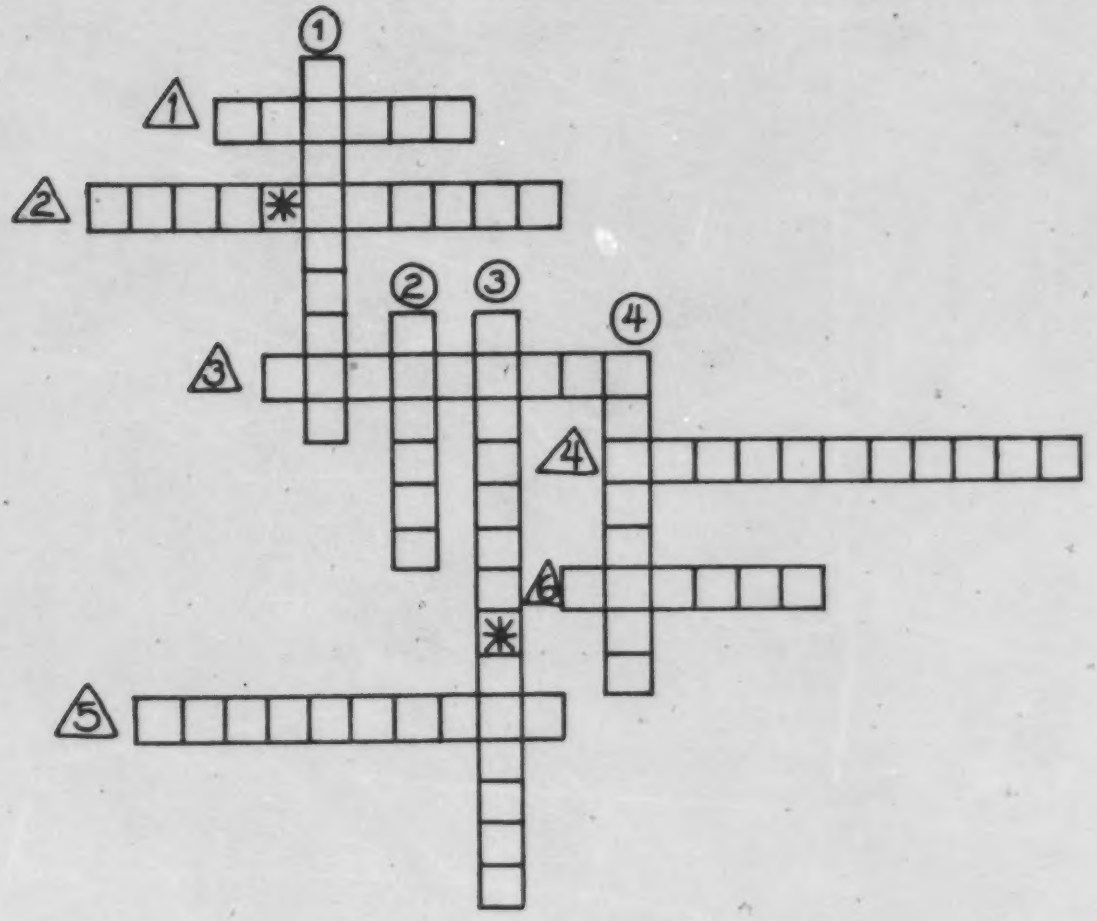


1. *Start the cartoon theme and have the student finish the cartoon.*

2. *Students come up with the ideas, the best idea is selected by the students at the end of the week. A poster is made and hung up in the room.*

REASONS FOR KEEPING RECORDS CROSSWORD

Name _____



Down

① Something made after looking over records

② Records can be used to _____ next years costs

③ Income that taxes are paid on

④ Costs which need to be recorded

Across

Ⓐ Borrowed money

Ⓑ Cash receipts − Cash expenses = ?

Ⓒ Type of claim that needs records

Ⓓ Records are needed so that each person in a _____ will get their share

Ⓔ An institution which charges taxes and will audit records

Ⓕ Records are needed to settle this

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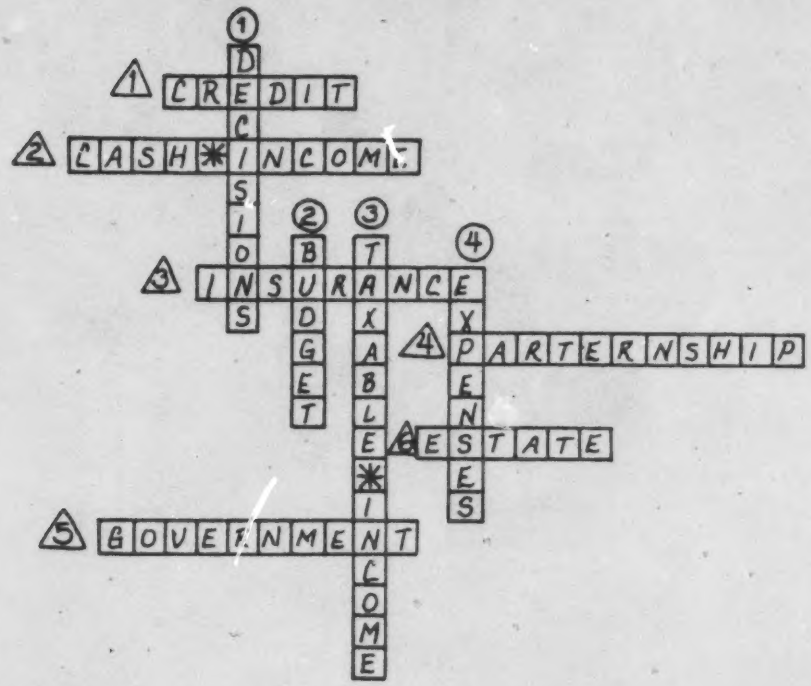
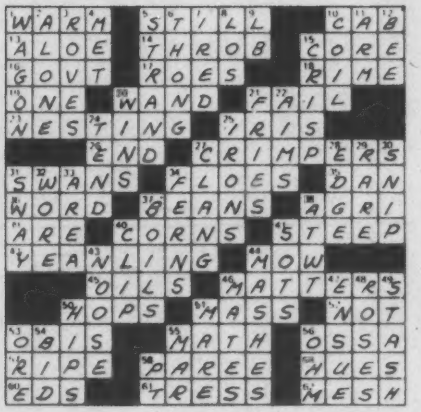
RECORDS — KEY



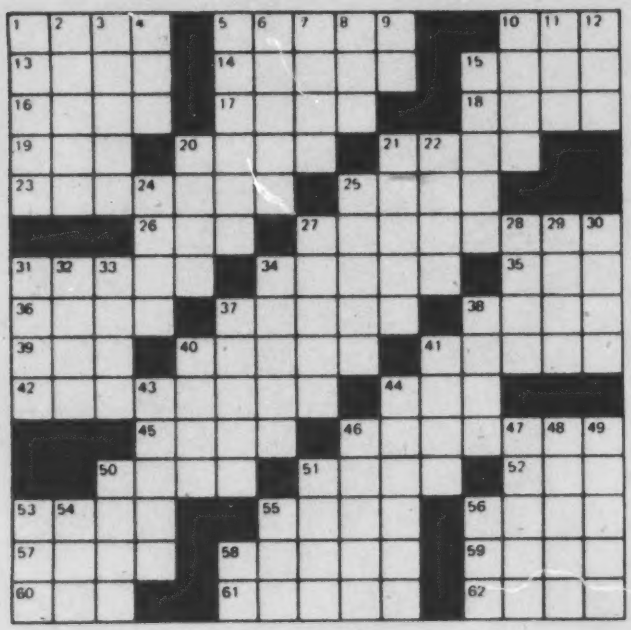
910/64

COUNTRY LINGO — KEY



COUNTRY LINGO CROSSWORD

910/64



ACROSS

1 Opposite of cool
5 Moonshiner's equipment
10 Part of a truck
13 Medicinal plant
14 Pulsate
15 Apple seed container
16 Government (abbr.)
17 Small deer (plural)
18 Hoarfrost
19 Number
20 Magician's rod
21 Not succeed
23 Building a nest
25 Showy flower
26 Finish
27 Types of haying machinery
31 Graceful birds
34 Sheets of floating ice
35 "Old___Tucker"
36 Unit of speech
37 Garden Crop
38 _____culture
39 I am; you___
40 salts beef
41 Soak
42 Lamb or kid
44 Stack of hay
46 Concerns
50 Dried flower clusters used to flavor beer
51 Church service
52 Negative

ACROSS (cont'd)

53 Japanese sashes
55 Arithmetic
56 Greek mountain
57 Ready for Harvest
58 "How're you gonna keep 'em down on the farm after they've seen_____?"
59 Colors
60 Belongs to Ed
61 Lock of Hair
62 Network

DOWN

1 Hay Carrier
2 By himself
3 Wanders
4 Greeted
5 Piece of Thread
6 Strip of leather
7 Angered
8 __Angeles
9 Pound
10 Loop
11 Limb
12 Honey Manufacturer
15 Crunchy
20 Comes in first
21 Cooks in fat

DOWN (cont'd)

22 Sights
24 Take Care of
25 Branding Tools
27 Loud noise
28 Rim
29 Uncommon
30 Cut
31 Swing to and fro
32 Was dressed in
33 Region
34 Brackens
37 Cooks in water
38 Atomic weight(abbr.)
40 Shear
41 Drunkards
43 Hangman's rope
44 Types of feed
46 Farm wives
47 Follow
48 June bloomers
49 Store away
50 Seed pods of 48 down
51 Female horse
53 Metal-containing rock
54 What you do at an auction
55 Spoil
56 Unit of electrical resistance
58 Point (abbr.)

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CHARADES

1. Charades is a fun game to use in a classroom

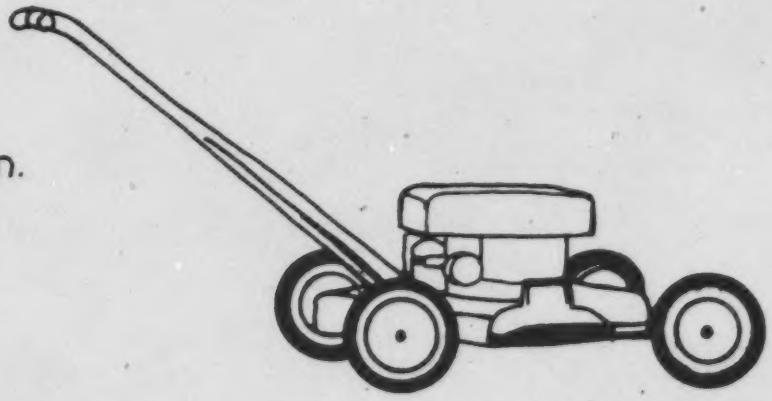
   - as a review game where teacher makes up roles for students to act out ahead of time.
   - as a "filler" when there are a few minutes left at the end of the class period. This can be a good review of the day's topic.

2. Students enjoy playing charades because:

   - the game gets them actively involved and is a "good break."
   - it instills sense of team spirit and competitiveness.
   - it reinforces their knowledge of a subject area.

EXAMPLES

Mowing a lawn.



steps involved in milking a cow.

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41

CAN YOU FOLLOW DIRECTIONS?

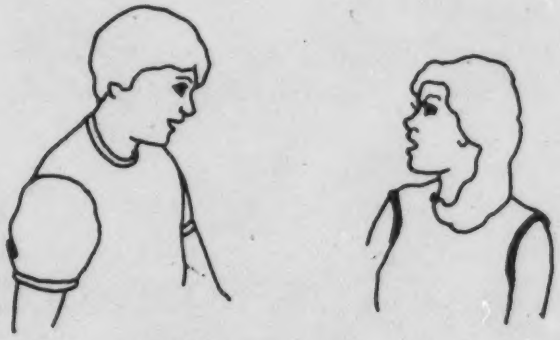
Directions: This test is to see if you can follow directions. Just concentrate, but remember you have only fifteen minutes.

1. Read everything before doing anything.
2. Put your name in the upper right hand corner of this paper.
3. Circle the word "name" in sentence two.
4. Draw five small squares in the upper left-hand corner of this paper.
5. Put an "X" in each square.
6. Put a circle around each square.
7. Sign your name under the title.
8. After the title write "Yes, Yes, Yes."
9. Put a circle around each word in sentence No. 7.
10. Put an "X" in the lower left-hand corner of this paper.
11. Draw a triangle around the "X" you just put down.
12. On the reverse side of this paper multiply 703 by 9805.
13. Draw a rectangle around the word "paper" in sentence four.
14. Call out your first name when you get to this point in the test.
15. If you think you followed directions up to this point, call out "I have."
16. On the reverse side of this paper add 8950 and 9850.
17. Put a circle around your answer. Put a square around the circle.
18. Count out loud in your normal speaking voice backwards from ten to one.
19. Now that you have finished reading carefully, do only sentences one and two.
20. You have finished, how did you do?

"TRAIN" GAME

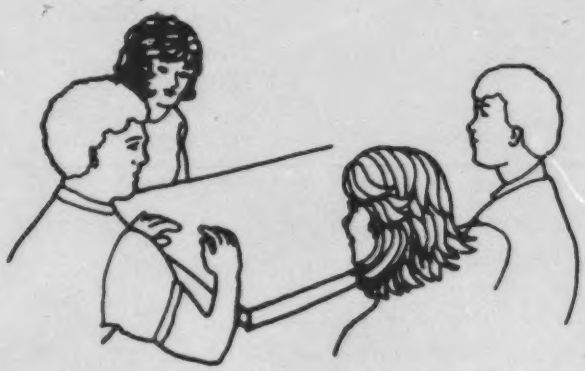
Game "Train"

Engineer or conductor tries to work around the classroom one student competitor-student at a time. Students question, whoever answers first will continue to try to work around the classroom. One student is assigned to ask a question.



QUICK DRAW GAME

Students make up questions the night before, each question equals a bullet and two students face each other standing and fire questions back and forth until one can't answer or makes a mistake. The student with the most kills is given points toward grade on exam of unit being reviewed.



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SPELLING BEE

(similar to old grade school "spelling bee")

1. Class is divided into 2 teams; placed on each side of room.
2. Teacher asks question or shows member of one team an unknown picture i.e. Identification of breeds of cattle)
3. If student answers question correctly, they stay with team; an incorrect answer makes student sit in center of room.
4. This procedure continues until one person remains on one of the two teams. This is the overall individual champion and his/her team is the winning team.
5. Game can be used as a good review game if teacher makes up questions ahead of time - i.e. - how many units of N might be reasonable for fertilizing corn?

TRUTH OR CONSEQUENCES

.30/46

1. Teacher asks questions to each student; if student answers correctly, he/she remains seated, if answer is incorrect, student has to stand up. Repeat this round again.
2. After each student has been asked a question for the second time; those who are seated move into center of classroom and are declared "safe"; those students still standing are asked another question - if the question is answered correctly, student may sit down and move to center of room; if question is answered incorrectly, student raises his/her right arm.
3. During the next round, the students that are still standing with right arm raised are asked another question - this time, if answered correctly, they may put their arm down, if answered incorrectly, they must raise their left arm.
4. During each successive round, if question is answered correctly, student may reverse procedures 1 step only (i.e. lower one arm) until he/she is sitting; if questions are continually answered incorrectly, student must continue physical "punishments" (i.e. raise both arms, raise 1 leg, stand on toes, etc.) This is good physical exercise and a lot of fun!

Exercise works well with slower-learners because participants are not eliminated totally from the game by answering incorrectly.

.30/46

PICK ON YOUR BUDDY

Good review game to use at end of class period.

Rules:

1. Teacher asks questions to students in class pertaining to the day's lecture, or current unit, etc.
2. When student answers incorrectly, he/she must stand up and then has the opportunity to call on the next person to answer the next question asked by the teacher.
3. If the selected person answers the teacher's question correctly, the student who is standing must remain standing; if the question is answered incorrectly, the student who is standing can now be seated and the student that responded incorrectly must now stand up!
4. The game is continued with the person who is standing choosing a classmate to answer the question.
5. When the bell rings, the person who is left standing is "penalized" - i.e. jumping jacks, running in place, balancing on one foot, etc.

BLACKBOARD BASEBALL/FOOTBALL

.30/46

1. Class divides into 2 teams
2. Baseball:
   - correct answer = 1 hit w/person on 1st base
   - incorrect answer = 1 out

   Object to score runs by answering questions correctly
3. Football:
   - correct answer = 5 yard gain
   - incorrect answer = loss of down

   Team captain must decide whether to punt or play on the 4th down; if captain believes that the next team member to answer will do so correctly, they won't punt the ball.

Both games are fun class review games that students like to play.

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46

PROFIT FARMING GAME

1. This game is designed to emphasize principles of farm management; purchasing and selling land and equipment; record keeping, decision making, etc.
2. "Profit Farming" game works best if played after the farm management unit because students have to apply principles that they have learned to playing the game.
3. Available through:

   Foster Enterprises
   530 S. Second Street
   Mankato, Minnesota 56001

   Approximate price: $10.00

BACKSEAT FARMER

.30
46

1. "Back Seat Farmer" is also a game emphasizing farm management and decision making principles.
2. Students enjoy the competition that results from the game along with applying principles learned in class.

Note: "Back Seat Farmer" is more challenging to the student than "Profit Farming."

3. Available through:

   Weekend Farmers
   Box 896
   Goldendale, Washington 98620

   Approximate price: $12.00

185

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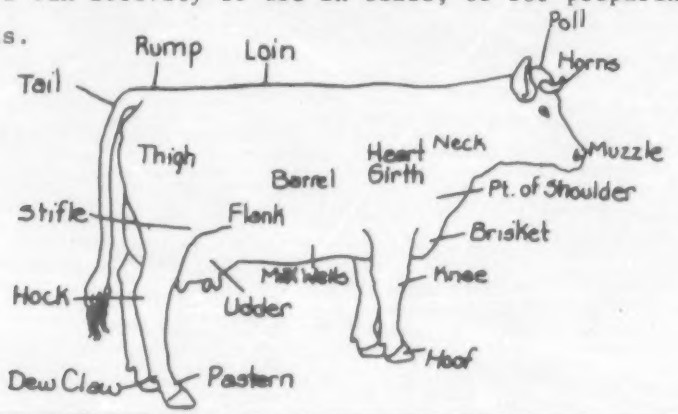
46

PARTS OF A DAIRY COW

Are you tired of hearing your students say: "Where's the,you know, the what-ja-ma-call-it?" instead of calling a part of the dairy cow by its proper name?

A fun educational game, available through Nasco helps students learn to identify, locate and name the basic parts of the dairy cow. Its game board illustrates a Holstein cow with 24 basic parts numbered for students to identify. (price $12.95; title: "Where's the What-ja-ma-call-it?")

This is a fun activity to use in class, or for preparing judging teams for contests.



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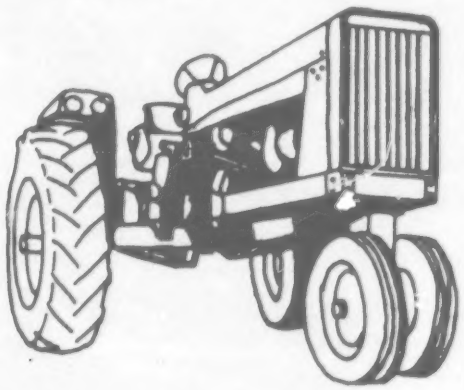
46

AG MECH GAME

1. Students can learn about parts failures and machinery management through a game series developed by John Deere.

2. Teacher must purchase Tractors Instructor's Manual (around $20.00) which comes complete with instructions for the games, and includes notes for teaching, overhead masters, etc.

A challenging and fun game for students to play!



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30

FFA INFORMATION HUNT

Name _____

You may (and will need to) use any F.F.A. reference materials in the room to find your answers.

1. How many FFA alumni members did N.Y. have in 1979?
2. What is the first sentence of the American Farmer Degree ceremony?
3. What are the two types of knots used for tying a tie?
4. What year was the Windsor FFA chartered and who signed the charter?
5. What are 3 types of exhibit designs?
6. List 4 items that should be included in the chapter resources:
7. List 3 chapter awards that a good chapter can receive.
8. List 2 things FFA members do.
9. When (and why) did the U. S. Post Office issue a stamp in honor of the FFA?
10. What was the name of Windsor FFA's banquet last year?
11. What are the four main objectives of parliamentary procedure?
    1.
    2.
    3.
    4.
12. What are the 3 types of votes?
13. What 2 projects does the Windsor FFA have under way at this time?
14. How do you know the "order of precedence" of motions?
15. What would your FFA "official dress" be?
16. What is the 3rd item on the FFA code of conduct (NYS)?

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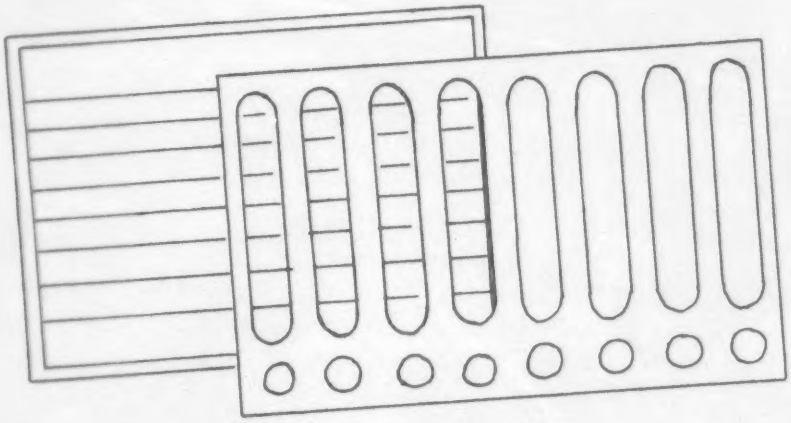
100/33

SEED COLLECTION AND IDENTIFICATION

1. Nasco has small, multi-compartment seed mounts available (cost around $2.70, see pg. 387 of 1981 catalog).

2. Students can prepare the mounts using their choice of seeds.

3. This exercise helps to excite students about collecting, identifying and recognizing seeds.



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SCHOOL RESEARCH PLOTS

1. Have County Extension Service and Cornell University put in research plots; examples might include:

   -herbicide trials

   -crop variety trials

2. Students learn:

   -how crop recommendations are developed

   -importance of local resource persons

   -crop research methods

3. This exercise also promotes public relations between school and other agencies/companies; and donations of herbicides, seeds, and fertilizers from companies are much easier to come by.

FLOWER RESOURCES FOR CLASSROOM USE

1. Contact floral businesses or services within your community to secure used floral arrangements:

   Examples: -funeral homes
   -churches
   -florist shops

2. Disassemble the arrangements for classroom use.

3. Exercise:

   Pair up students by having them draw lots; each pair constructs a designated floral design that the instructor has specified or have each group construct an arrangement of their own design.

4. Evaluation:

   All students and the instructor choose the top 3 arrangments in the class. Arrangements can be displayed throughout the school with students' names on them (i.e. main office, faculty lounge, cafeteria, library, etc).

COMMERCIAL FLORAL RESOURCES

200
01

If you are looking for some plant and flower resource materials with visuals to aid in classroom teaching (especially helpful for use with special ed) try the following:

1.	Vocational Educational Productions California Polytechnic State University St. Louis Obispo, CA 93407	includes Orn Hort kit of 6 film strips/cassettes with booklet worksheets and tests for $27.50 ea. or $140 for all 6. Each kit provides base to stimulate student interest and involvement in a subject.
2.	Nursery Business Magazine Brentwood Publication Elmgrove, Wisc. 53122	garden center magazine, $9.00 per year or $20.00 per 3 year subscription
3.	Turfgrass Times Brentwood Publication Elmgrove, Wisc. 53122	$9.00 per year or $20.00 per 3 year subscription
4.	American Nurseryman 310 S. Michigan Avenue Chicago, Ill. 60604	$16/yr subscription rates single copies $1.00

FLOWER ARRANGEMENT TIPS

The following items are all available through:

Colorado Dye and Chemical, Inc.
P.O. Box 601
Boulder, Colorado 80306

Contact them for complete information and prices on any of the items:

1.	Petal Proofer:	provides shatter-insurance for fragile flowers that tend to fall apart at the slightest touch.
2.	Super surface sealer:	preserves and protects dried arrangements and much more.
3.	hand cleaner:	removes almost anything you've got on your hands! Its gentle and smells good.
4.	BRI tints:	concentrated, transparent colors for use on fresh and dried materials.
5.	color blending:	used to achieve any tint or hue that you desire
6.	Black tint:	shades flowers delicately or deeply; allows you to use shadow to build into your floral arrangement.
7.	White tint:	when sprayed over a darker color, it transforms the original version into a dusty pastel color.

250
01

OBTAINING SEED CATALOGS

1. November 1st is often the time when area newspapers publish lists of commercial seed catalogs.

2. Exercise: Have students write to the newspapers to request the catalogs for classroom use.

3. This is a good exercise for students because it

   -helps them improve their writing skills

   -makes them aware of existing community resources

   -builds up supply of classroom catalogs

   -provides resources for students to plan their spring gardens

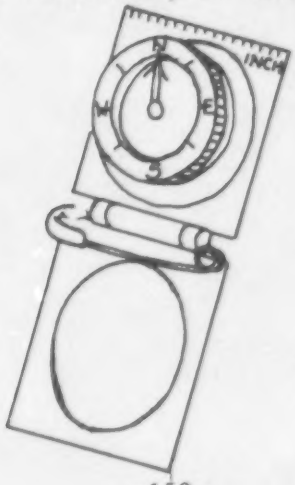
4. Other applications: Encourage students to seek out other existing community resources in their specific fields of agriculture. Have them contact the agencies to obtain classroom resources. This helps to promote good relationships with the community along with other items listed above.

USE OF THE SILVA POLARIS COMPASS

300
757

Objectives: Students learn basics of orienteering, map work and land navigation

Resources: The Silva Polaris compass made by Ben Meadows Company sells for around $7.00. It is an inexpensive teaching tool that can be used effectively in teaching the above objectives.



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HOUSE PLANTS FROM YOUR SHOPPING BAG

Resource: Flower and Garden, Sept, 1977, p. 50-53.

(Excerpts from the article):

The next grocery bag you bring home most likely will contain several house plants and their containers.

A. Carrots:

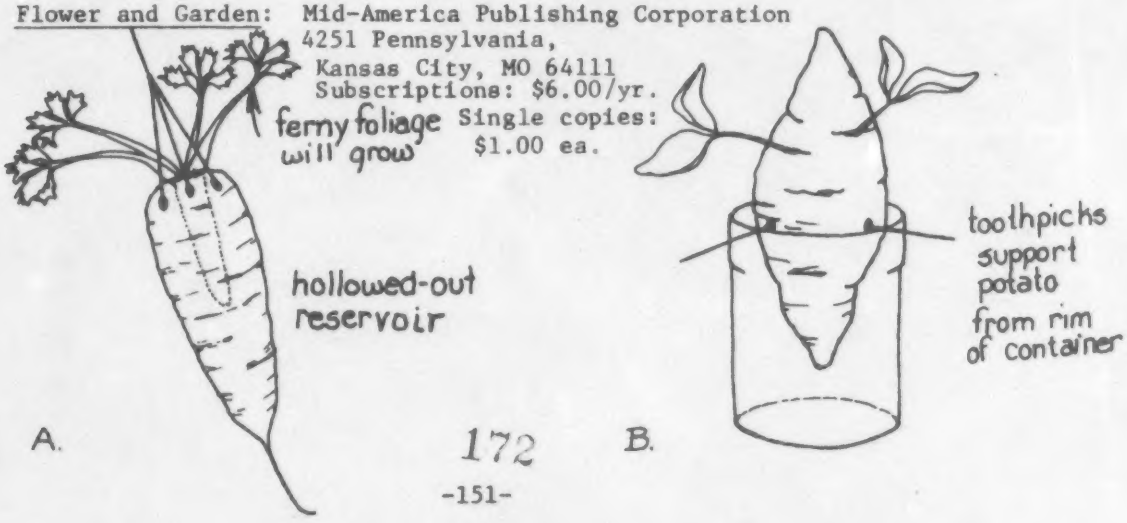
1. select a large fat carrot, cut off any greenery from its top.
2. scoop out the inside with a narrow sharp knife or apple corer.
3. pierce 3 holes equally spaced around top edge of the carrot, slip knotted cords through so carrot can be hung.
4. keep filled with water and soon feathery foliage will spill out.

B. Sweet Potatoes:

1. half submerge a sweet potato in water; with a large container, hold potato up in place by inserting 3 toothpicks equally spaced around the sides and rest the toothpicks on the edge of the jar.
2. set potato and jar in a light but not sunny window until it starts to grow, changing water occasionally.
3. eventually one or more vining shoots will emerge. keep container in the shade, but let the plant have some sun.
4. for greatest success, choose a sweet potato that already has purple buds; when placing in water put budded end upward. Make sure that half the potato is above the water line.

Further information on growing plants from fruits and seeds is available in the article. It includes pineapples, avocados, citrus fruits, peas, nuts, etc.

Flower and Garden: Mid-America Publishing Corporation
4251 Pennsylvania,
Kansas City, MO 64111
Subscriptions: $6.00/yr.
Single copies: $1.00 ea.



HANDY TIPS FROM AGWAY GARDENS

Handy Tips from Agway Gardens

TROUBLESHOOTING HOUSEPLANT PROBLEMS

This outline is a simp
problems. If any plan
the rest of your plan
the plant looks worse
information, or disc
gardening friends wh
to their own plants
plants by touch.

SYMPTOMS

Lea droop (no
yellowing or
browning)

Leaf dro
(loss o
leaves
yellow

Leaf
or

t

What's bugging you?

Agway Farm & Home Center • 213 S. Fulton Street, Ithaca, NY 14850 • (607) 272-1848

AGWAY

COLORADO POTATO BEETLES

Description:

Adult: about 3/8" lo
Yellow with lengthw
haps the best-knowr
long when full-grc

Life Cycle:

The adult beetl
several inches
new potato sh
underside of
after. The
on the l
to 3 w
and
lay

Resources, such as the ones shown on this page, may be available from your local agribusinesses. Also consider services such as Cooperative Extension and ASCS. One should note that different materials may be available in different areas and not all businesses have the materials.

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They will also

xychlor or Diazinon
s DUAL GARDEN ORCHARD
road-spectrum controls
t to spray every 4 or 5
est; be sure to check
ent timing near harvest.

The Northern LOGGER

AND TIMBER PROCESSOR

Monthly articles include topics on safety, job opportunities, new equipment, legislation, individual contributions to the logging industry and much more! The Northern Logger is an excellent magazine for classroom use!

Let's talk... SAFETY

Kickback: the cause of most logging accide... you can ... against it with the ... only ...

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40 WEEK PROGRAM IN ANIMAL SCIENCE

I. Animal Nutrition

- A. What is it?
- B. Digestive Systems
- C. Feed Preparations
- D. Types of feeds
- E. Balancing Rations
- F. Economics of Feeding

II. Health and Disease of Farm Animals

- A. Signals of good health
- B. What is disease?
- C. How are diseases spread?
- D. How can diseases be controlled?
- E. Terminology
- F. Uses of Medicines
- G. Specific Diseases
- H. Materials in a home vet cabinet

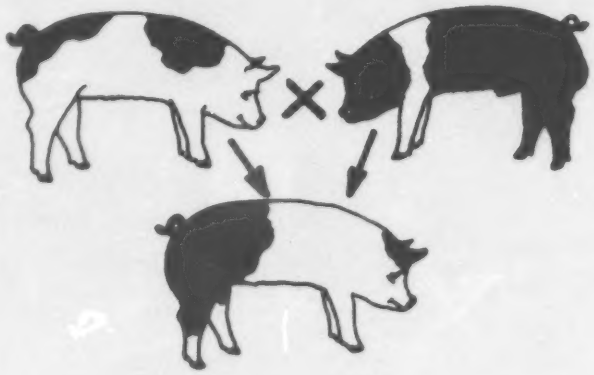
III. Reproduction in farm animals

- A. Parts and functions of male and female reproductive systems
- B. Development: estrus and maturity
- C. Goals of reproductive efficiency
- D. Nutrition and reproduction

IV. Genetics

- A. How characteristics are transmitted
- B. Hwo genetic information is gathered
- C. Use of genetic information

For a complete outline, contact Peter Keys, Beaver River School, Beaver Falls, New York, 13320; (315)346-1211.



ANIMAL SCIENCE REFERENCE MATERIALS

1. Livestock Nutrition and Feeding — IMS
   Clarence Fridline

2. Animal Nutrition, Feeds and Feeding — National Vo-Ag Books
   Arthur Pynnonen

3. Animal Science Curriculum Workshop — IMS
   Iowa State University

4. Dairy Herd Health — IMS
   Wolanyk and Bishop

5. 4-H Veterinary Science Program
   Co-op Extension

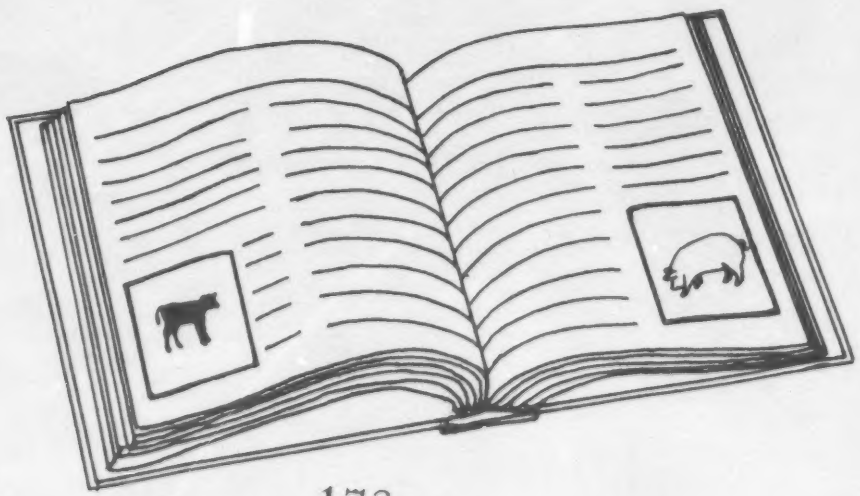
6. Horse Health Primer — IMS
   Bernadette McGuire

7. Animal Science
   Esminger, Eugene; 5th Ed. Danville, Ill,
   The Interstate,c 1962

8. Horses and Horsemanship
   Esminger, Eugene, Danville, Ill, Interstate

9. Feeds and Feeding
   Cullision, 2nd Ed., Reston, VA,
   Reston Pub. Co. c 1979

10. Complete Feeds and Nutrition
    Esminger, Eugene; Clovis, CA,
    Esminger Pub. Co. c 1978



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MASTITIS CONTROL LAB

Purpose: Introduce students to lab procedures of identifying organisms that cause mastitis

Format:

1. Have students bring in samples of milk taken directly from individual cows' quarters or from bulk tank.
2. Invite mastitis lab technician to class to demonstrate procedures of plating milk samples to colonize bacteria.
3. Class plates milk samples, bacteria are colonized and lab technician reviews results with the class.

Learning Experiences:

1. Students learn aseptic lab techniques.
2. Exercise reinforces the students' appreciation of the fact that mastitis is a severe and costly disease to the dairy industry.

BIRD IDENTIFICATION

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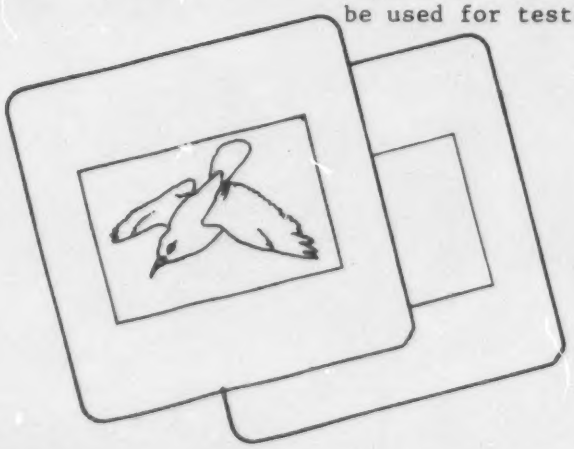
Objective: Students learn to identify common local birds through use of colored slides.

Resource: Birds of America, edited by T. Gilbert Pearson, Garden City Publishing Co., Garden City, NY. 106 full color plates by Louis Fuentes.

Procedures: Book contains excellent color illustrations of birds that lend well to being photographed for classroom use. Students view slides for identification and review; slides may also be used for tests.



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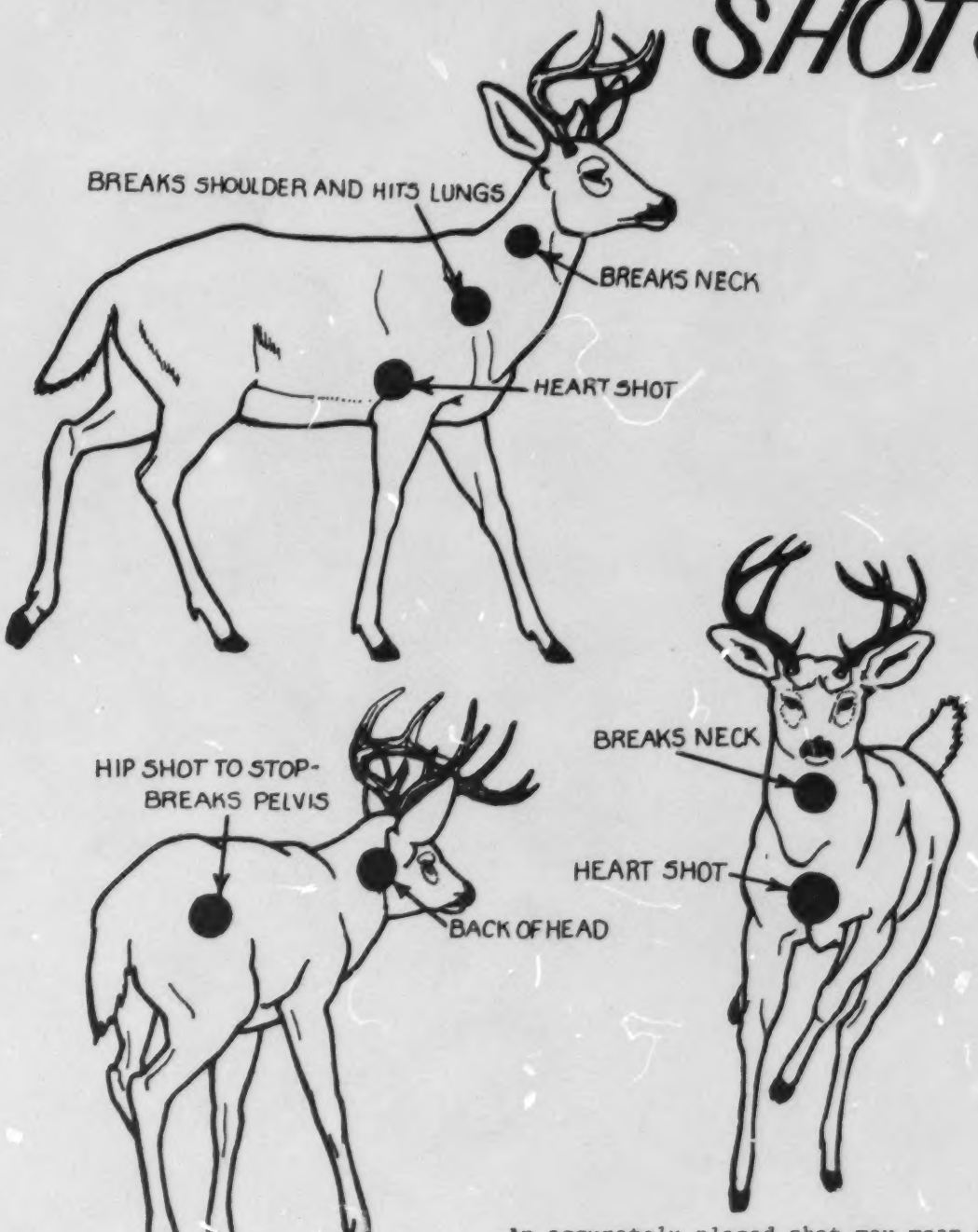
available from:

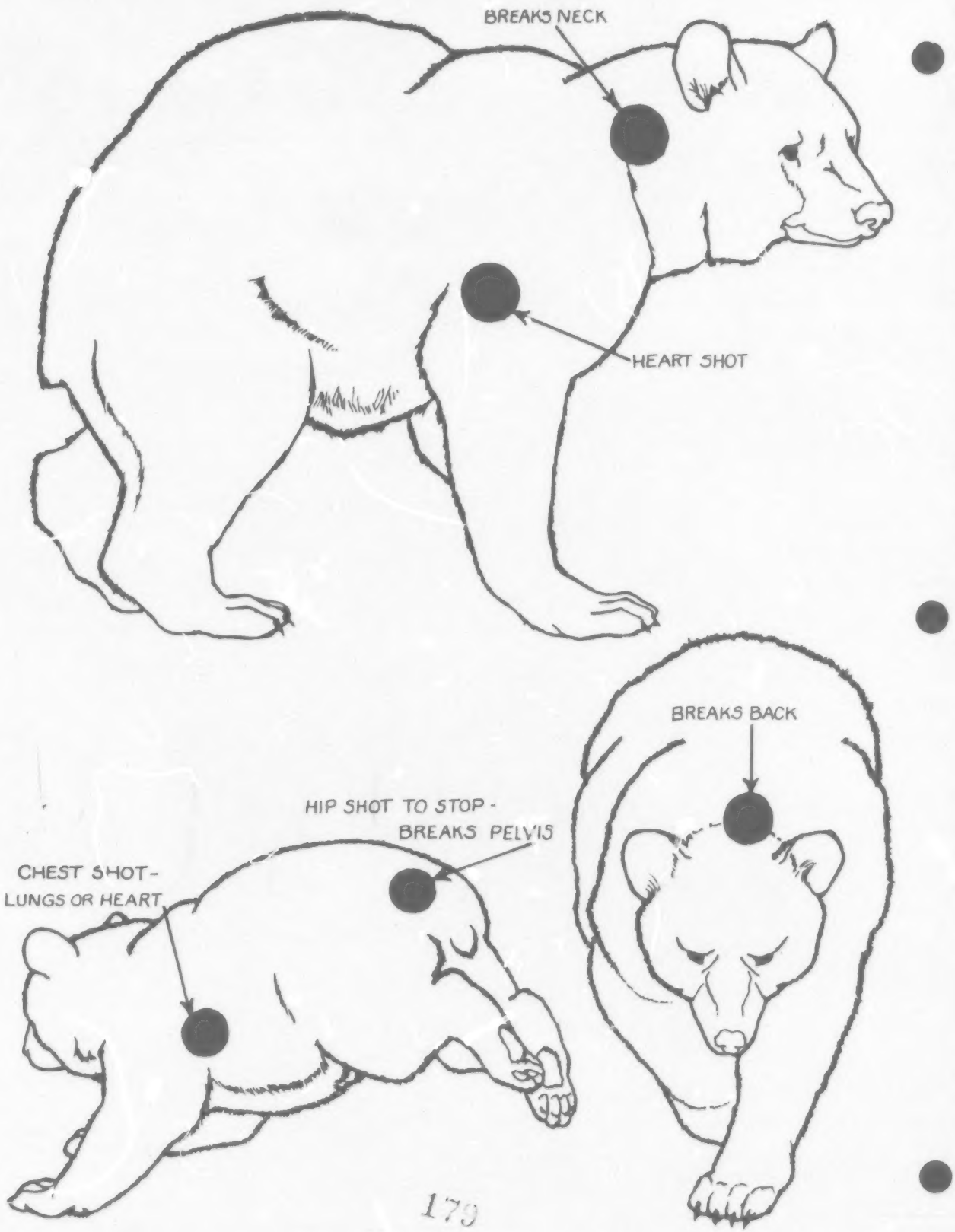
N.Y. STATE CONSERVATION DEPT.
Division of Conservation
Education

BIG GAME SHOTS



An accurately placed shot may mean the difference between success and failure of the hunting trip. Here are some drawings showing a few effective spots to place your shots.

BIG GAME SHOTS



TI 59 PROGRAMMABLE CALCULATORS

Objectives: Students will learn operation of TI-59 calculator and understand their use in agricultural related subjects.

TI-59 calculators can be programmed to perform a variety of ag-related functions. A popular example includes ration formulation and least cost ration calculation. When purchasing the Ti-59 Agricultural Module, an instruction booklet accompanies the packet. (See example below).

Cooperative Extension agents and feed company specialists can both provide assistance with use of calculators.

TABLE OF CONTENTS

INTRODUCTION
- Using This Manual
- Running Solid State Software Programs
- Using Solid State Software Programs in Subroutines
- Downloading Solid State Software Programs
- Removing and Installing Modules

FM-01 AGRICULTURE LIBRARY DIAGNOSTIC
Checks operation of calculator and library module. Initializes calculator for linear regression.

FM-02 DATA STORAGE AND RETRIEVAL
Permits direct entry of data into memory registers and/or retrieval of values for checking data in memory registers.

FM-03 METRIC CONVERSIONS
Converts measurement of weight (kg=lb) and temperature (°C=°F)

FM-04 BATCH MIX
Determines quantities of ingredients for various sizes of total mix.

FM-05 BEEF COW RATION ANALYZER
Determines the nutrient requirements of gestating and lactating beef cows and compares them to the nutrients in the ration being fed.

FM-06 FEEDLOT RATION ANALYZER
Evaluates a ration currently being fed to cattle and indicates possible changes.

FM-07 MP AND UFP DETERMINATION
Calculates metabolizable protein and urea-fermentation potential values for feedstuffs and supplements.

FM-08 DAIRY RATION BALANCER
Formulates a dairy ration for either lactating or dry cows.

FM-09 SWINE AND POULTRY RATION FORMULATION
Determines amounts of ingredients required for specified protein or lysine levels.

CALCULATOR PROGRAMS FROM COOPERATIVE EXTENSION

Program Titles

5.1 Determination of Water Removal or Addition to Condition Feedstuffs
5.2 Estimating Agricultural Aircraft Cost
5.3 Corn Crib Selection
5.4 Calculating Water Flow in a Pipe
5.5 Standardization and Statistical Analysis of Plot Samples
5.6 Comparing Fuel Costs
5.7 Drying Fan Selection
5.8 Estimating Farm Machinery Costs and Mimeo #431
5.9 Manure Storage
5.10 Produce Storage Refrigeration or Heating Load
5.11 Complete Feed Formulation and Ration Evaluation
5.11a Ration Cost Calculator
5.12 Batch Size Calculations for Complete Feeds
5.13 Simplified Feed Requirements for the Lactating Cow
5.14 Dairy Ration Balancer
5.15 Prediction of Daily Dry Matter Intake
5.16 Formulating and Blending Complete Feeds Calculator (An. Sci. Mimeo #25)
5.17 Calculation of Nutrient Allowances for Dairy Cattle
5.18 Estimating Operative Costs for Bulk Milk Assembly
5.19 Cost Evaluation of Dairy Feed Using Corn and Soybean Meal Constants
5.20 Calculating Soil Loss
5.21 Drive Belt Length and Center Distance
5.22 Building Heat Loss and Heating Cost
5.23 Economic Value of Cropland
5.24 Financial Feasibility of Land Purchase
5.25 Greenhouse Heat Loss Calculator
5.26 Home Canning Cost Analysis
5.27 Warm Dairy Barn Ventilation Calculator
5.28 Matching Grain Depth to Drying Fan
5.29 Lime Calculations
5.30 Wood Beam Analysis - Uniform Load
5.31 Wood Beam Bending Analysis - Point Loads
5.32 High Moisture Corn Pricing
5.33 Tank Calibration
5.34 Tractor Ballasting
5.35 Investment Table Generator
5.36 Social Security Program
5.37 Laying Flock Records - Program Description
5.38 Wood Column Design for Grain Storage
5.39 Determining Air Flow per Volume of Grain
5.40 Vehicle Fuel Cost
5.41 Bovine Nutrition - Program Description

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MARKETING RESOURCES

The topic on marketing can be very complex and student interest can rapidly diminish. However, students admit that marketing is a most helpful subject to study, whether they remain on the farm or go on to college.
The following agencies publish resources on some area of marketing:

1. Dairy Division
   Agricultural Marketing
   U.S.D.A.
   Washington, DC 20250

2. Cooperative Extension Milk Marketing Series
   Available through County Cooperative Extension Office

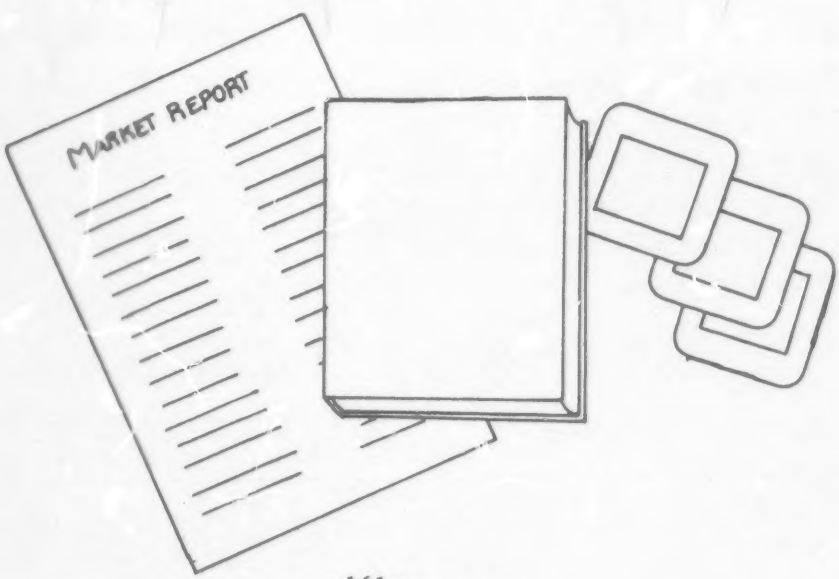
3. Chicago Board of Trade
   LaSalle and Jackson
   Chicago, Illinois 60604

4. Holstein Friesian Assoc. of America (slide set)
   Brattleboro, Vermont

5. Milk Marketing
   Instructional Materials Service
   Stone Hall
   Cornell University
   Ithaca, New York 14853

6. Modern Marketing of Farm Products
   Interstate Printers and Publishers
   Dowville, Illinois

7. Profitable Farm Marketing
   Prentice Hall, Inc.
   Englewood, New Jersey



MARKETING COMMODITY REPORTS

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PRICES RECEIVED BY NEW YORK FARMERS

Commodity	Unit	April 1980	March 1981	April 1981 (prelim.)
Livestock Products				
Milk (3.6%, 201-210 M.Z. NY-NJ Market)	Cwt.	12.11	13.37R	13.17
Milk cows (replacements)	Head	1200.00	1190.00R	1160.00
Steers and heifers	Cwt.	54.40	50.80R	51.50
Cows (including cull dairy cows)	Cwt.	46.00	41.90R	42.00
Calves	Cwt.	79.20	64.80R	70.10
Hogs	Cwt.	30.30	39.30R	38.90
Eggs	Doz.	0.43	0.53	0.58
Crops				
Wheat	Bu.	3.79	4.39R	4.00
Corn	Bu.	2.75	3.62R	3.55
Oats	Bu.		2.25R	2.32
Red Kidney Beans	Cwt.		.00	27.00*
Hay (all)	Ton		00	65.50
Apples (fresh use)	Pound		4	0.185

R/ Revised. Source: New York Crop Repo rice.

Commodity reports are available through the Department of Ag. Economics (Rm. 40 Warren Hall), Cornell University; or may be obtained from the Cooperative Extension offices.

Lift ng the Soviet Grain Embargo

The President's deci tle effect on grain prices thus f ecide to make some additional fulfilled most of their grain o see what happens to their ave bought a very large perc just harvested and also have bee

The 198

co do away with target prices n ring milk to 70 per cent of f mmittee. The Senate committee h ecretary to support the price of m nt of parity on October 1st; however, h price on April 1st of the following year un r parity.

A m g up over target prices and the Secretary's request to be grante discretionary authority in establishing loan rates for wheat, corn, cotton, and other supported commodities. An amendment proposed by Senator Dole and accepted by the Committee would require the Secretary of Agriculture to raise the 1982 loan level for wheat another 10 cents to $3.60 per bushel. The Dole amendment also would increase the 1982 target price for wheat to $4.20 per bushel, nearly 40 cents above the 1981 target price. Apparently, the Senate committee is staking out a bargaining position, for it is doubtful if the President will be prepared to accept a bill calling for substantially higher target prices. Large deficiency payments would be required in 1982 if the Dole amendment is accepted and wheat prices fail to rise above current levels.

Prepared by Kenneth L. Robinson
Professor of Agricultural Economics

Professor R. Brian How
Department Extension Leader

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COMMODITY BUYING

Name _____

Bought In	Commodity	Amount Spent	Sold In	Earned	Lost
Sept.			Oct.		
Sept.			Oct.		
Sept.			Dec.		
Sept.			Dec.		
Sept.			March		
Sept.			March		
Sept.			May		
Sept.			May		
Oct.			Nov.		
Oct.			Nov.		
Nov.			Dec.		
Nov.			Dec.		
Dec.			Jan.		
Dec.			Jan.		
Jan.			Feb.		
Jan.			Feb.		
Feb.			March		
Feb.			March		
March			April		
March			April		
April			May		
April			May		
May			June		
May			June		

SELLING YOUR JOB TALENTS

Letter of Application: customary way to ask for personal interview

Guidelines:

1. Type neatly, using care in sentence structure, spelling and punctuation.
2. Use good grade of letter sized white bond paper.
3. Address letters to specific person.
4. State exactly the kind of position you are seeking and why applying to the particular firm.
5. Clear, brief, businesslike
6. Enclose resume

Resume Writing:

1. Why write a resume
2. Suggested resume outline
3. Elements of a resume

Job Interviews:

1. What are your future vocational plans?
2. How do you spend your spare time?
   What are your hobbies?
3. What type of position are you most interested?
4. What have you done which shows initiative and willingess to work?

Resource: "Selling Your Job Talents"
Missouri Dept. of Labor
Industrial Relations
Division of Employment & Security
Kansas City, Missouri

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INTERVIEW CHECKLIST FOR JOB SEEKERS

Many job seekers are not aware of the importance of the job interview. However, the INTERVIEW is probably the most important single step to a job. So, prepare yourself beforehand and review some of these suggestions that will honestly help you along the way.

1. KNOW YOURSELF - Know your qualifications, your interests and experience. The interviewer will ask you.
2. APPEARANCE - This is extremely important. Be neat with hair combed and wear pressed clothes. An employer looks for this - Good grooming is good business. A good appearance creates a good first impression and this is of utmost importance.
3. ARRIVE EARLY - Show up at the interview a little early.
4. ENTHUSIASM - If you are really interested in a job, don't conceal your enthusiasm. Employers want people who are eager and energetic.
5. BE-ALERT - Sit up straight, relax and be at ease. Look interviewer squarely in the eyes and pay attention to what the interviewer is saying or asking.
6. THINK - Think before answering all questions. Be accurate, honest and to the point. Be prepared to explain clearly, directly and politely the facts about your military experience, school, and interests.
7. FORGET TROUBLES- Do not tell employer your troubles. He wants to know about YOU and your qualifications, not your problems.
8. LISTEN - Listen to what the interviewer says and asks. Never argue. Let the interviewer run the conversation.
9. ASK QUESTIONS - Ask about the job opportunities, etc. Don't be afraid to ask for the job if you honestly want it. But NEVER ask about vacation, holidays, salary or fringe benefits until the job is offered.
10. LEAVE CORDIALLY- After the interview, thank the interviewer, shake his hand and leave promptly.
11. FOLLOW-UP Give the employer time to consider you for the job. But show interest by calling the interviewer back. DON'T GIVE UP! If you are interested in the job, CALL and tell them. IT DOES PAY OFF.

Remember the interview is important - First impressions are lasting impressions! Keep in mind, more job seekers landed jobs simply because the interviewer liked them. Of course, you must meet their qualifications, but you also have to be liked - for your APPEARANCE - your - ATTITUDE - and your HONEST DESIRE TO GET THE JOB!

NEW YORK STATE DEPARTMENT OF LABOR
100 Broad Street
Glens Falls, New York 12801

COMMUNITY RESOURCE PERSONS AS CLASSROOM SUBSTITUTES

.10/30

Problem Identified: Qualified substitute teachers are not always available for ag classrooms

Solution: Explore the use of Advisory Board Members, School Board members, specialists such as artificial inseminators, machinery salespersons, farmers, feed specialists and others!

Outcomes: Students enjoy the varied programs that may result from this idea. The school benefits because these people often teach for a day on a voluntary basis. The classroom and community also benefit from increased awareness of programs on everyone's part.

Caution: This idea requires time to build-up relationships with community people. Start with your Advisory Board for suggestions of people to draw upon.

CRAFT COMMITTEE

.10/31

Suggestion: Form your own craft committee from local business-persons who will commit themselves to helping to make your program a success!

Activities:

- obtaining tool boxes for students at reduced prices
- having a tool salesman come to the school
- sponsor annual "parents-students industry" open house
- publish a newsletter to send to schools and businesses
- members help to obtain funding for tools and equipment
- members also donate training aids

Other applications: Form a committee of community persons in any area that you need support and assistance in!

MENTALLY HANDICAPPING CONDITIONS

Mental Retardation - A condition whereby a person does not have complete mental development resulting in slower learning and difficulty in mentally-processing information.

This condition comes in many levels and has many different causes. Three of the classifications are listed below:

Marginally Mentally Retarded - MMR

Educable Mentally Retarded - EMR

Trainable Mentally Retarded - TMR

Learning Handicapped Students

A condition where a student has some problem receiving, translating, storing or recalling data given to him. This may or may not be due to a visual or hearing handicap. Usually, there is one best learning method for this type of student having to do with one or more of his senses.

Physically Handicapped

These handicapping conditions may be genetically, disease or accident caused. They range from deafness, to blind, to quadraplegic.

Hearing handicaps - may not be noticeable in the student.
Hearing Impaired - slightly hard of hearing.
Hearing dysfunction - Inversion of sounds.
Total deafness - No sounds registered.
Channel Hearing - hears only sounds in a certain range of frequency.

Visually Handicapped

Near or far sightedness - correctable focusing
Color blindness - unable to discern certain colors
Visual inversion - reverses characters
Total blindness - unable to see

Physical Handicaps

Amputees - one or more limbs surgically removed.

Paraplegic - paralyzed from the waist down.

Muscular dystrophy - a disease that deteriorates muscle tissue.

Motor control disorders - lack of hand-eye coordination.

All handicapped students tend to fall into one or more learning modes.

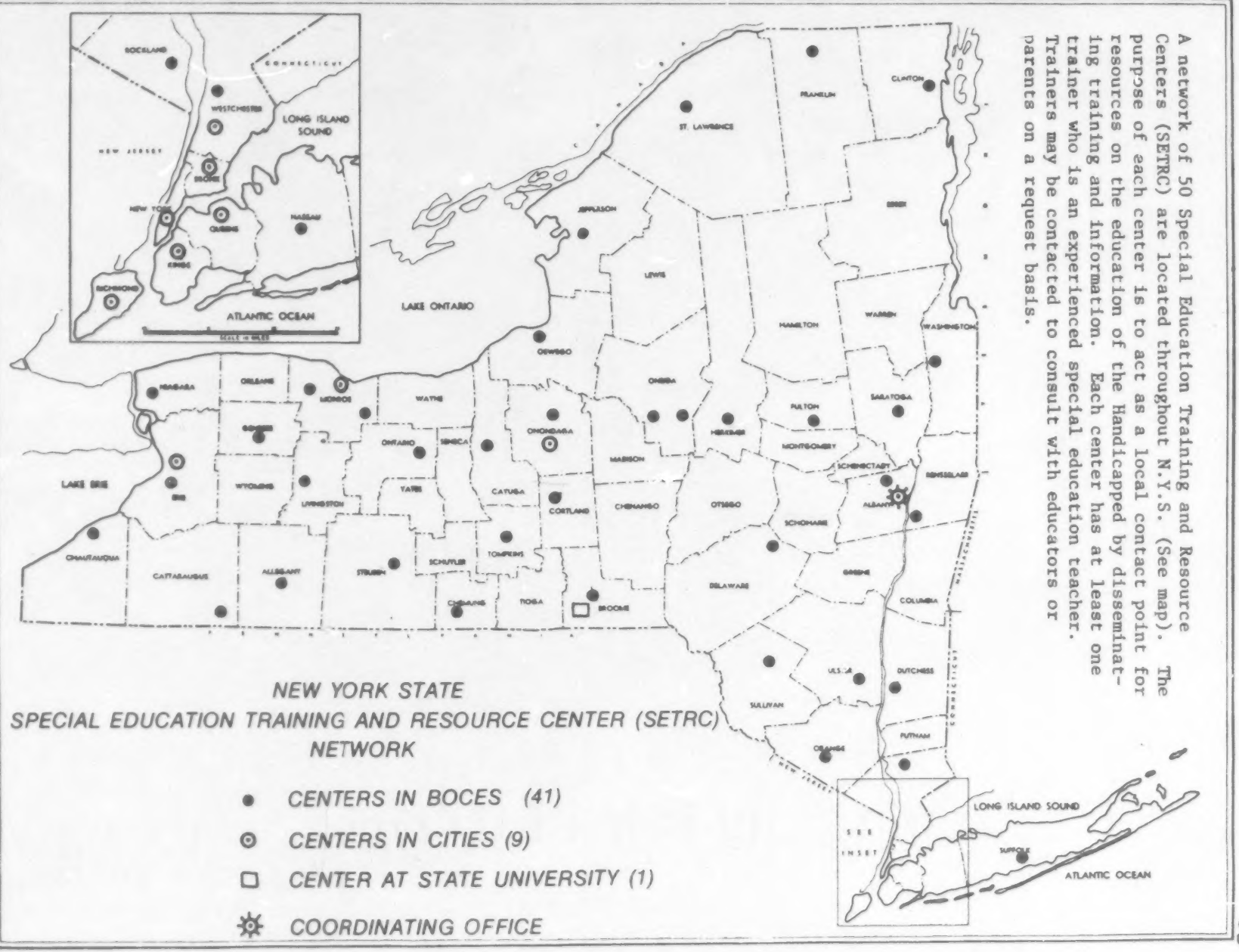
Visual learner - a student that learns best by seeing information.

Auditory learner - a student that learns best by hearing information.

Tactile - kinesthetic - a student that learns best by physical contact with objects.

SETRC CENTERS

A network of 50 Special Education Training and Resource Centers (SETRC) are located throughout N.Y.S. (See map). The purpose of each center is to act as a local contact point for resources on the education of the Handicapped by disseminating training and information. Each center has at least one trainer who is an experienced special education teacher. Trainers may be contacted to consult with educators or parents on a request basis.



NEW YORK STATE
SPECIAL EDUCATION TRAINING AND RESOURCE CENTER (SETRC) NETWORK

- ● *CENTERS IN BOCES (41)*
- ⊙ *CENTERS IN CITIES (9)*
- □ *CENTER AT STATE UNIVERSITY (1)*
- ☼ *COORDINATING OFFICE*

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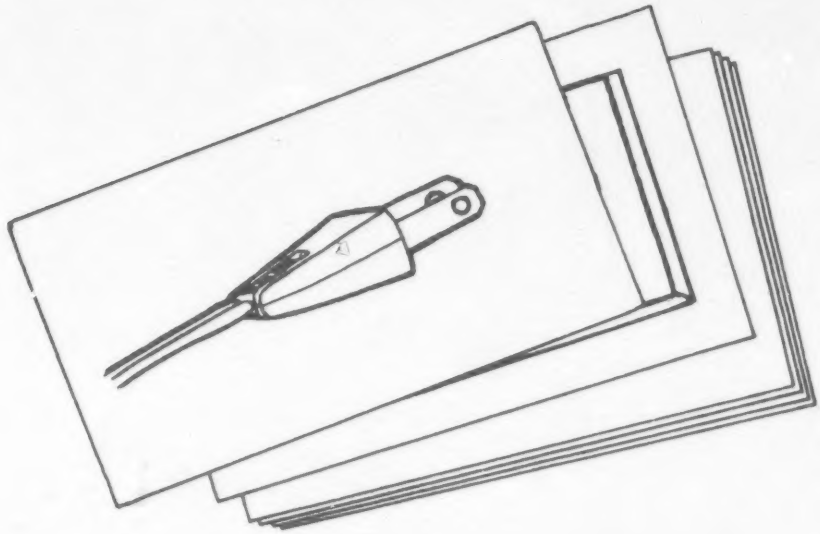
FLASH CARDS

Flash cards are available through Interstate Publishers ($7.00) of tools and electrical items. These are most useful in class reviews and may be used for games also



SHARED RESOURCES

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02

Laboratory facilities of Ag and Markets Dairy Industry Inspectors provide excellent facilities to be shared by Ag students. Inspectors are often willing to work with students on use of the laboratory and in teaching lab techniques.

COMMERCIAL AUDIO VISUAL MATERIALS

The following lists of materials may be obtained from the designated Ag dealerships.

Case

Sales:	Product Line
	Loader Backhoe
	Utility Crawlers
	Wheel Loaders
	Articulated Wheel Loader
	Excavators
	Forklifts
	Retail Financing
	Owning and Operating Costs
Service:	Selectamatic Hydraulics Diagnosis
	Backhoe Introduction to Service
	Backhoe Operations and Preventative Maintenance
	Bulldozer Transmission Reassembly Adjustments
	Hydraulic Pump Operation and Diagnosis
	Troubleshooting Crawler Powershift Transmissions
	Articulated Loader Brake System
	Uni-Loader Hydrostatics and Diagnosis
	Equipment Hydraulics Diagnosis
	Undercarriage Diagnosis
	Undercarriage Operations
	Diesel Engine Tune-Up
	Electrical Systems II: Charging System
Parts:	Customer Relations
	Retail Parts Marketing
	Parts Department Layout
	Parts Procedures
	Inventory Control

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COMMERCIAL AUDIO VISUAL MATERIALS

John Deere Video Tapes

Excavators
Electrical System Diagnosis
Crawler Undercarriage Preventative Maintenance
Closed-Center Hydraulic System Diagnosis
Testing Powershift Transmission
Roosa Master Fule Injection Pump
What's a Torque Converter?
Testing Hydraulic Systems
Electrical Circuits
Managing Money Minutes - Part I - Control
Managing Money Minutes - Part II - Planning
Open-Center Hydraulic System Testing
Crawler Loaders
Transmission Testing
Hydrostatic Steering Valve Adjustments and Bench Tests
Transmission Repair Guide
Modern Motor Grader Operation
Closed-Center Components Repair Guide - Part I - Pumps
Closed-Center Components Repair Guide - Part II - Accumulators
Closed-Center Components Repair Guide - Part III - Steering Valves and Brakes
The Business of Backhoe-Loader Operation
Open-Center Components Repair Guide
Winch Repair Guide
4-Wheel Loader Transmission
Skidder Sales Introduction
Halt Hydraulic Headaches
Motor Garder Sales Introduction
Transmission Repair Guide
Using Parts Catalogs
Inventory Control
Scraper Sales Introduction
Electrical Preventative Maintenance
Hydrostatic Pump Repair Guide - Part I
Hydrostatic Motor Repair Guide - Part II
Torque Converter Repair Guide
Power Train Preventative Maintenance
Dual-Path Hydrostatic Transmission Repair Guide - Part I - Pump
Dual-Path Hydrostatic Transmission Repair Guide - Part II - Motor
Hydrostatic Transmission Control Valve - Part I - Part II
The ABC's of Fine Grading
Landfill Design
Compaction...For the Life of Your Landfill
Hydraulic System Analyzer
Transmission Repair Guide
Basic Engine Rebuild
From Stump to Landing
JDK REPORT: Timber Harvesting System
Diesel Injection Pump Test Stand
Preventative Maintenance Programs - Engines
Safety: Round Trip to Daner, It Always Happens to the Other Guy, 330 & 1

COMMERCIAL AUDIO VISUAL MATERIALS

Caterpillar Slide Presentations

Caterpillar Winches (w/test)

Basic Training: Track-Type Tractor Family

Sealed and Lubricated Track (w/test)
Variable Capacity Torque Converter

Caterpillar Low Ground Pressure Tractors

Caterpillar Pipelayers (w/test)

Compaction Fundamentals and Application

Sealed Loader Linkage

Selecting and Equipping Wheel Loaders

Cat Push-Pull System

Job Efficiency for the Trenching Contractor

Land Leveling

Highway Survey and Design

Wheel Tractor-Scraper Production

Problems - Scraper Production

Basic Earthmoving for Machine Users

Vehicle Horsepower Ratings

Sound Suppression and Machine Sales (w/test)

Beadless Tire

ROPS (COSA Produced)

Moving in on Industry (Cat Products in Industrial Applications)

Caterpillar: Yesterday and Today

Caterpillar: The Builder

The Sanitary Landfill

Natural Resources...Development and Conservation

Total Cost Bidding

Controlling Brush Mechanically

Attachments: Key to Industrial Sales

Sealed and Lubricated Track (update)

Owning and Operating Costs

COMMERCIAL AUDIO VISUAL MATERIALS

Caterpillar 16mm Films

Monuments - Ancient Technology vs. Modern Technology
800 Miles of Winter - Alaska Pipeline
Clean Water - What's in it For You
Where in the World
Multinational Business and Your Job
Everything Rides on the Roads
Lands of Promise...Fields of Hope
Quest for Excellence
The Transalpine Pipeline
Costa Rica Land Project
Born in the West
The Big Track
D10 New Shape of Value
The Edge in Mining
Why Handle it Twice?
Operating in the Black
Big Wheels in the Woods
A Good Day for Skidding
14 Ways to Work with Wood
Special Excavator Tools
Improving Your Health
World's Fair of Conservation
Down is Up
Making the Most with Scrapers
Loading Logic
Winners...Losers
Dirt...The Quiet Thief
Operator Training Series:
Operating Tips: Elevating Scrapers
Motor Graders
Push-Pull Scrapers
Scrapers
Track Loaders
Track Tractors
Trucks
Wheel Loaders
Operators' Guide - Hydraulic Excavators
Safety: An X Factor
Shake Hands with Danger
Multiple Choice
Color of Danger
Everything to Lose
Challenge of Safety

SOURCES FOR "FREE RENTAL" MOVIES

General Information:

1. Order in May or June for following school year.
2. Order more movies than you will use - because many are not available.
3. Generally movies produced by large corporations are the best because they have more funds to make movies.

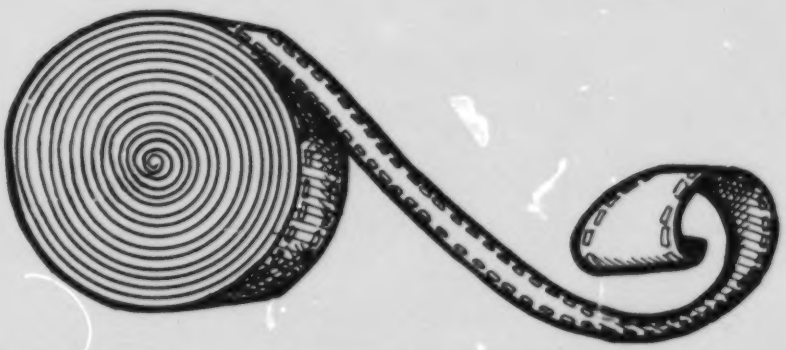
Film Source And Address	Type of Film	Teacher's Comments
Karol Media 625 Rood Panams, NJ 07652	General, Environment, Hunting	Excellent, Fast Service 100% success Rate same year
Modern Talking Picture Services, Inc. 122W Chippewa St. Buffalo, NY 14202	All Agriculture	Some good, some old 50% success rate, order now for next year
Farm Film Foundation	All Agriculture	Some good, some old,50% success rate, order now
Buchan Pictures 254 Delaware Ave. Buffalo, NY 14202	All Agriculture	some good, some old, about 50% success rate, 6 month notice good idea
Cornell Film Library 31 Roberts Hall Cornell University Ithaca, NY 14853	All Agriculture Dairy Nutrition-Excellent	Films vary in quality Rental fee
Film Division Holstein Friesian Assoc. of Am. Box 808 Brattleboro, VT	Dairy Cattle Type and Production	Fast service, Excellent 100% success rate
Audio Visual Library Dist. Eastman Kodak Co. 343 State St. Rochester, NY 14650	Many Topics, Environment	Excellent movies, should order 6 months ahead
Exxon Film Library Film Scheduling Dept. 5000 Park St. North St.Petersburg, FL 33709	Energy, other selections as-Conservation, Soil, Land	Excellent Movies, 80-100% success rate

SOURCES FOR "FREE RENTAL" MOVIES

Film Source And Address	Type of Film	Teacher's Comments
Shell Film Library 1433 Sadlier Circle West Drive Indianapolis, Indiana 33709	Insects, soils, energy conservation, safety	Excellent Movies, 70-90% success rate
Search for Solutions Booking Center 708 Third Avenue New York, NY 10164	All Topics	Good Educational Films
Niagara Mohawk Educational Services 300 Erie Boulevard West Syracuse, NY 13202	Basic Electricity Environment, First Aid	Excellent Films, HM has programs and booklets with movies
Miss Carroll Weber Aqueduct Raceway P.O. Box 90 Jamaica, NY 11417	Harness and Thoroughbred Horse Films	Average Film, good cooperation from NYRA
Syracuse University Film Rental Service 1455 E. Coluinst St. Syracuse, NY	Conservation, Environment	Good - some with fees
Vernard Films Ltd Box 1332 Peoria, Illinois	All Agriculture	Some good, some old

Other Suggestions

John Deere New Holland	Harvesting Equipment	See Dealer



MAKING COLOR OVERHEADS

Directions:

1. Select pictures from magazines with clay-base paper only. Test for clay-base paper by wetting fingers and rubbing paper. If white chalk-like matter comes off on your finger then the paper is clay base.

2. Press the picture on clear contact paper; press hard! Rub the picture and contact paper together - a spoon works well - making sure all air bubbles are worked out.

3. Soak picture and contact paper in water for 1 hour or overnight.

4. The paper will slide away from the contact paper; leaving the print on the contact paper. Lightly rub the loose paper if needed.

5. Pat the contact paper dry. The overhead is ready for use.

(Note: "Trial and error" is required to acquire the best contact of picture to contact paper)

For further information and applications of this method:

"Lifting Filmstrips the Easy Way" is a filmstrip that tells how to make slides and filmstrips using this same method as described above. It is produced by: World Neighbors, International Headquarters, 5116 North Portland Ave., Oklahoma City, Oklahoma 73112.

CLASS WEDDING PROJECT

This is a wedding project to be done by you today. You are given the items that make up the pieces, the prices for bunches of flowers and how many are in a bunch. You need to figure how much each piece is before proceeding on.

You are to figure out what the cost of the wedding is to be. First figure each item; second, each piece; third, total the Wedding Party's flowers, the church flowers, the reception flowers; and then total everything. Multiply this number by 3 and add 7% sales tax. Everything you need is here.

Wedding Party Flowers_____

Church Flowers_____

Reception Flowers_____

Total_____

x 3_____

plus 7% tax_____

TOTAL OF WEDDING_____

Note: Add 1 roll of tape for whole wedding. Add 50¢ for spray paint used.

Bride's Bouquet Cascade

1 colonial holder_____

9 yellow sweets_____

5 white mini carnations_____

15 snowdrift Pom-Poms_____

1 bunch asparagus fern_____

TOTAL PRICE $_____

3 Bridesmaids' Bouquets

1 holder_____

1 collar_____

5 mini-carnations pink_____

9 Daisy Pom-Poms_____

3 Pink Sweets_____

4 stems Babies Breath_____

5 stem Baker_____

7ft #3 ribbon_____

1/2 piece wire_____

TOTAL PRICE _____

x 3

Total 3 pieces _____

3 Attendants' Head Pieces

3 Pink Sweets_____

1 stem Babies Breath_____

1 piece Baker_____

2 pieces wire_____

TOTAL PRICE_____

x 3

Total 3 headpieces $_____

Boutonnieres

1 Yellow sweet_____

1 Babies Breath_____

1/2 wire_____

1/8 Baker_____

Pag_____

Pin_____

TOTAL PRICE(x 4)_____

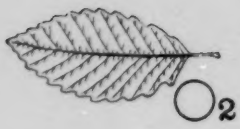
CLASS WEDDING PROJECT

Item	Price	How Many Pieces of each in a bunch	Price of each Flower or Stem
colonial holder	80¢	1	
collar	75¢	1	
mini-carnations	$2.50/bu	18 flowers	
pom-poms	$2.50/bu	22 flowers	
Daisy poms	$2.50/bu	20 flowers	
asparagus fern	$1.25/bu	18 stems	
Baker	$1.25/bu	20 stems	
Ribbon			
#3	$1.90/100 yds	100 yds	each yd___each ft.___
#9	$2.40/100 yds	100 yds	each yd___each ft.___
#40	$3.60/50 yds	50 yds	each yd___each ft.___
wire	2¢		
oasis	75¢/block	block	
foil	10¢/a piece		
tape	30¢	1 roll	
Chenille stems	2¢	1	
water piks	3¢	1	
paper mache basket	50¢	1	
Babies Breath	$6.00/bu	20 stems	
standard Carnations	20¢	1	
salal	$2.90	15 stems	
Dishes for centerpieces	50¢	1	
6 inch fireside Basket	$1.00	1	
Long Stem-Yellow Roses	80¢	1	
Yellow Sweets	35¢	1	
Pink Sweets	40¢	1	
Bags	4¢	1	
Pins	2¢	1	
Spray paint	$2.20	1 can	

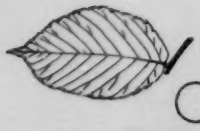
200

TREE LEAF AND NEEDLE I.D. NO 1

1


2

3


4

5

6

7

8

9

10

11

12

13

14

15

A. Hemlock

B. White Cedar

C. Trembling Aspen

D. Eastern Cottonwood

E. Chestnut Oak

F. Scarlet Oak

G. Sycamore

H. Black Locust

I. American Elm

J. Hop Hornbeam

K. Willow

L. Black Cherry

M. Sassafras

N. Tulip

O. Gray Birch

Directions: Place the proper answer in capital letters inside the correct circle.

ANIMAL STUDY CHART

Name _____

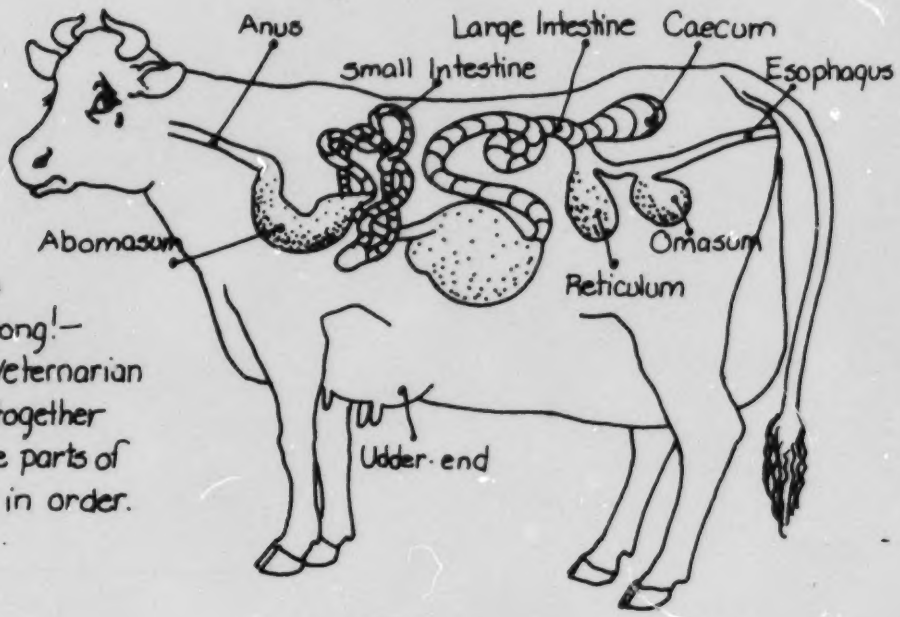
Date _____

Description of Term	CATTLE	SWINE (Hog)	SHEEP	HORSES	CHICKEN	GOAT
Scientific Name						
Female which has not produced young						
Female which has produced young						
Young Animal						
Male						
Castrated Male						
Digestive System						
Name of Meat — Young						
Name of Meat — Mature						
To Give Birth						
Gestation Period						
Average First Breeding — Wt.						
Average First Breeding — Age						

DAIRY COW DIGESTIVE SYSTEM

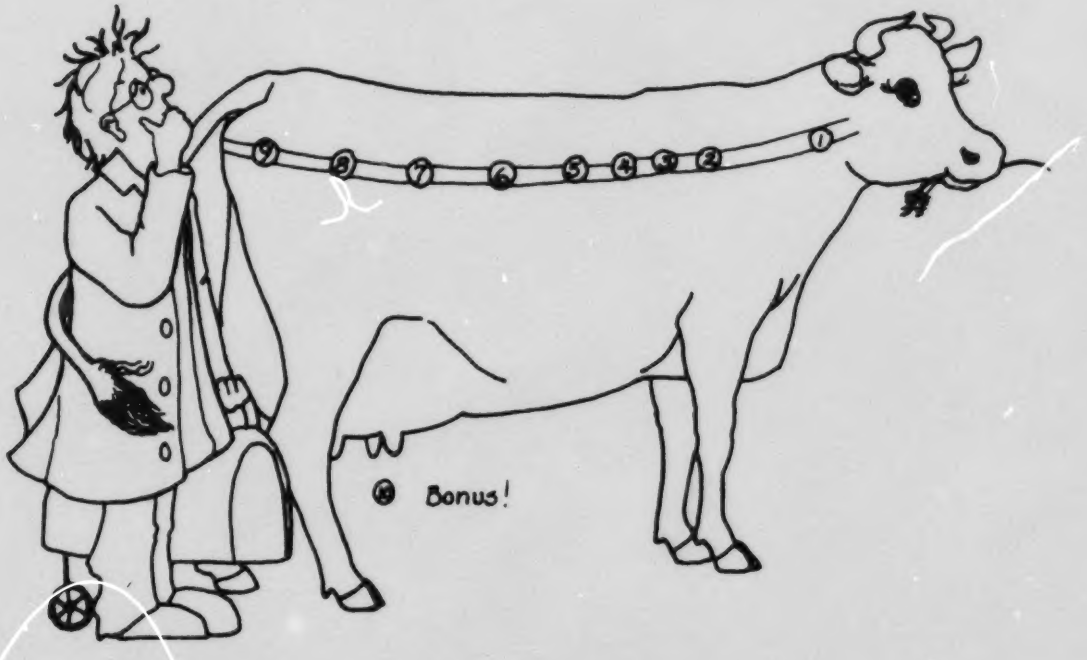
410/07

Name _____

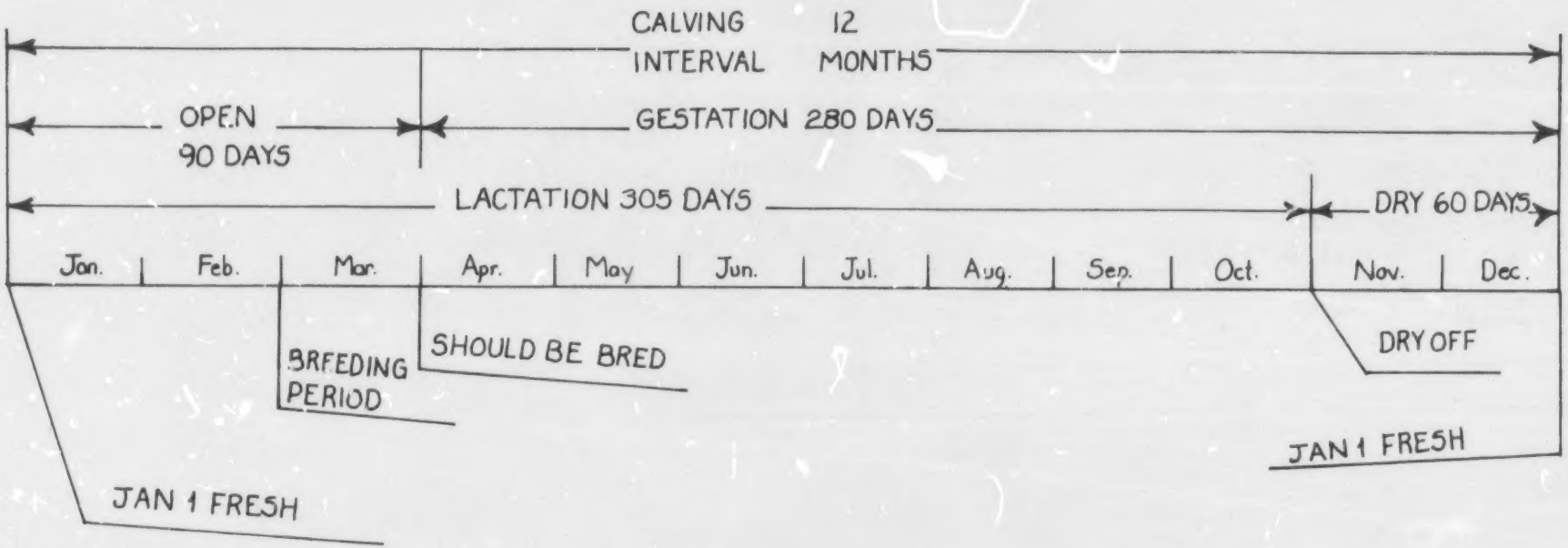


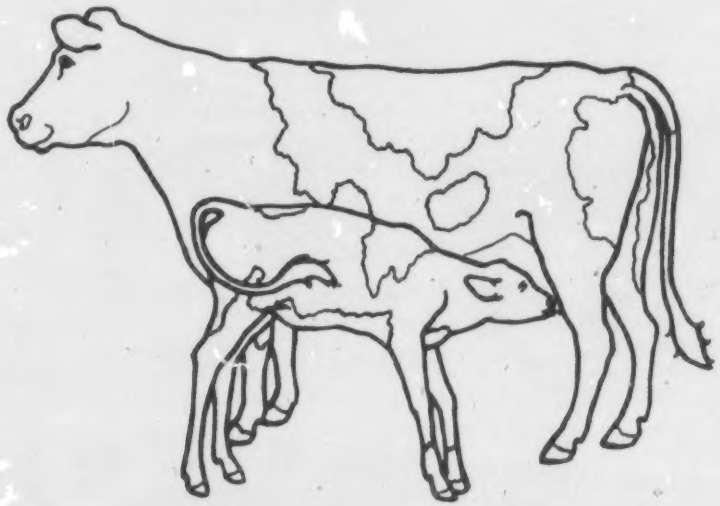
The poor cow was put together all wrong!— Can you tell the Veternarian how to put her together properly? List the parts of the ruminant GIT in order.

① _____
② _____
③ _____
④ _____
⑤ _____
⑥ _____
⑦ _____
⑧ _____
⑨ _____
⑩ _____



CALVING CHART





CULLING DAIRY COWS

By using DHIA sheets and using only information pertinent to the unit taught, a teacher can develop worksheets for student use.

The following information was taken from DHIA sheets and combining it with other information, such as type characteristics, breeding problems, etc... a culling problem was developed for the students to complete. This problem takes the students approximately three class periods to complete. It incorporates most of the information learned in the entire dairy unit, so students have to use notes, texts, etc. from previous class sessions.

Mr. Smith has a 100 cow herd of Holsteins, half registered, half grade. He is striving for an entire registered herd. His rolling herd average is 15,200 # of milk; 3.7% test; 555 # of fat. Because of barn capacity Mr. Smith will have to cull 6 cows before winter.

Help Mr. Smith decide which animals to cull.

Some things you should take into consideration:

Production	Type, Classification
Breeding	Disposition
Disease	Other factors

Type of barn is optional but make sure you specify which - because it should make a difference in your decision making.

For each cow you cull give:

- M. E. - milk, fat
- factors you took into consideration
- SPECIFIC reasons for culling

The records on the following page are from the period ending 4/25/80.

CULLING DAIRY COWS

Cow	Birthdate	Sire	#milk	Test	#fat	Days in Milk	Days Dry	Calving Date	Due Date	Lactations	Comments
101	3/1/70	Elevation	22580 Complete	3.7	833	486	41	12/18/78	7/5/80	7	7 services to conceive Reg.
142	1/28/74	Astro	457	2.8	13	7	89	4/19/80	--	4	Chronic mastitis Pendulous udder
144	10/30/73	[illegible]	14728 Projected	3.8	550	233	50	9/5/79	10/5/80	4	Classified 65 Poor udder attach
149	10/1/74	Comet	5222	3.4	179	81	50	2/4/80	--	4	Displaced abomasum; light in one quarter
151	4/3/75	Aquarius	4962	4.1	203	76	80	2/8/80	4/13/81	3	Milk fever after each calving
154	8/25/74	Noble Ruler	12182 Projected	3.7	440	216	41	9/22/79	9/8/80	3	Wry tail, poor legs, Registered
157	3/18/75	Wis Mayer	17238 Projected	3.6	605	92	39	1/24/80	--	3	Retained placenta metritis
161	11/29/75	Golf	13196 Projected	4.2	540	195	50	10/13/79	12/21/80	2	Acute mastitis Registered
163	12/9/75	Ted	15863 Projected	3.2	501	173	45	11/4/79	10/23/80	2	Bad disposition Registered
164	8/1/76	Appeal	13742 Projected	3.5	473	160	37	11/17/79	12/10/80	2	Poor feet & legs Registered
165	3/21/76	Tim	16516 Complete	3.7	604	505	-	12/7/78	10/11/80	1	Problem breeder Registered
166	8/30/76	Elevation	15036 Projected	3.6	527	125	37	12/22/79	---	2	Hard Milker
169	4/1/76	Silver	10554 Complete	3.5	371	306	-	---	7/31/80	1	Nervous Registered
170	11/5/76	Tim	10630 Projected	3.9	298	244	-	8/25/79	10/10/80	1	Injured teat, Fence jumper Registered

LAMB CHART

Student _____

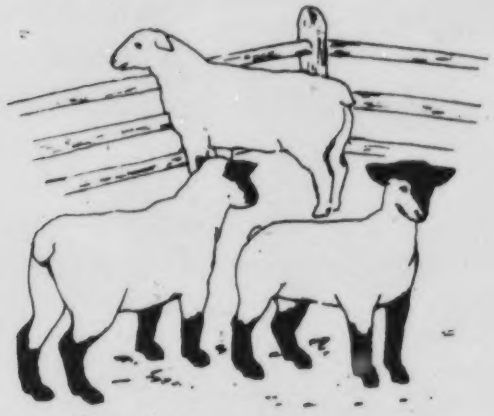
LAMB CHART
IDENTIFICATION OF WHOLESALE CUTS AND SELECTED BONES OF LAMB

Instructions:

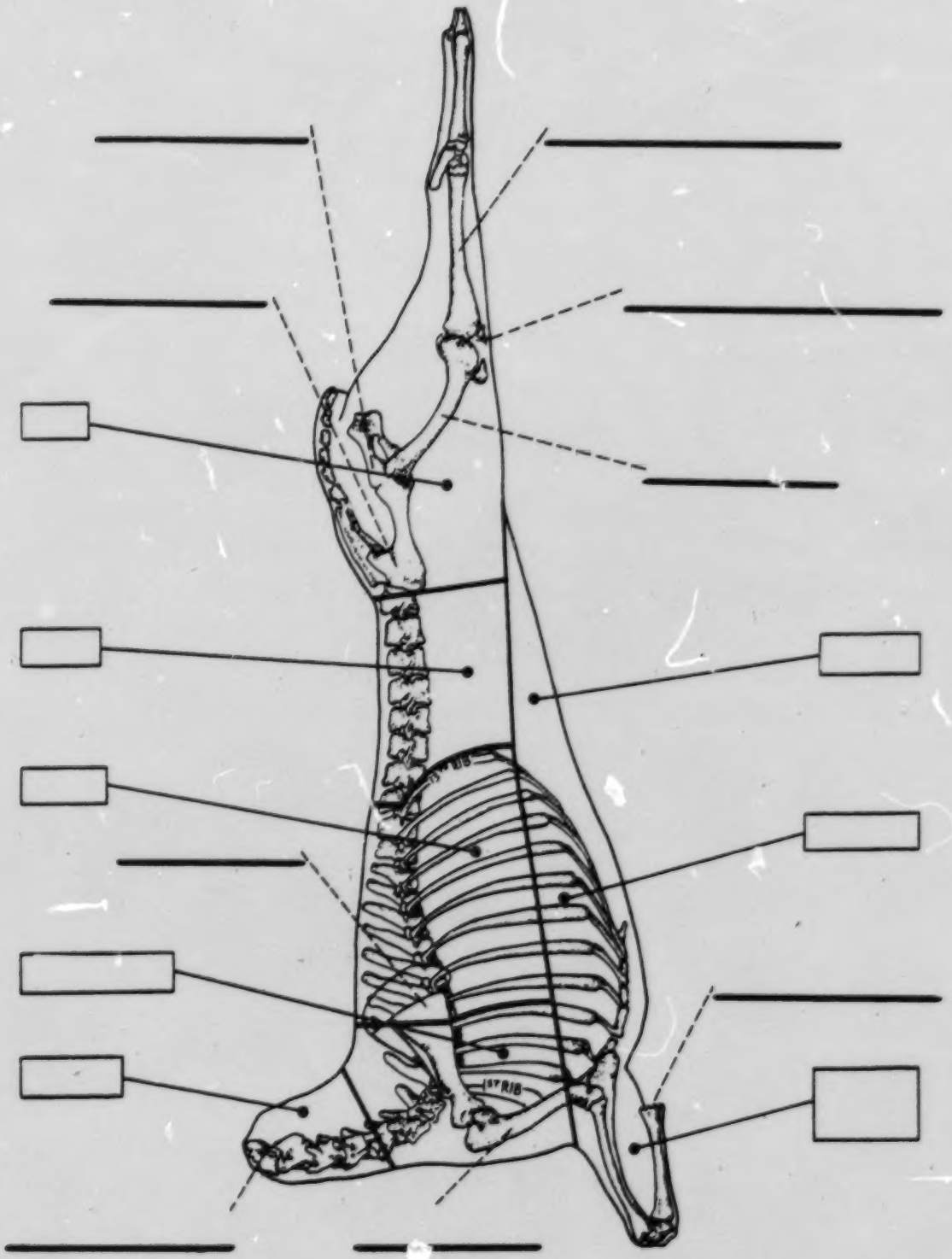
1. Print the cut names of the wholesale cuts in the boxes provided.
2. Complete the chart by printing the names of selected lamb bones on the lines provided.
3. The correct answers are in the following list.

WHOLESALE CUTS AND SELECTED LAMB BONES

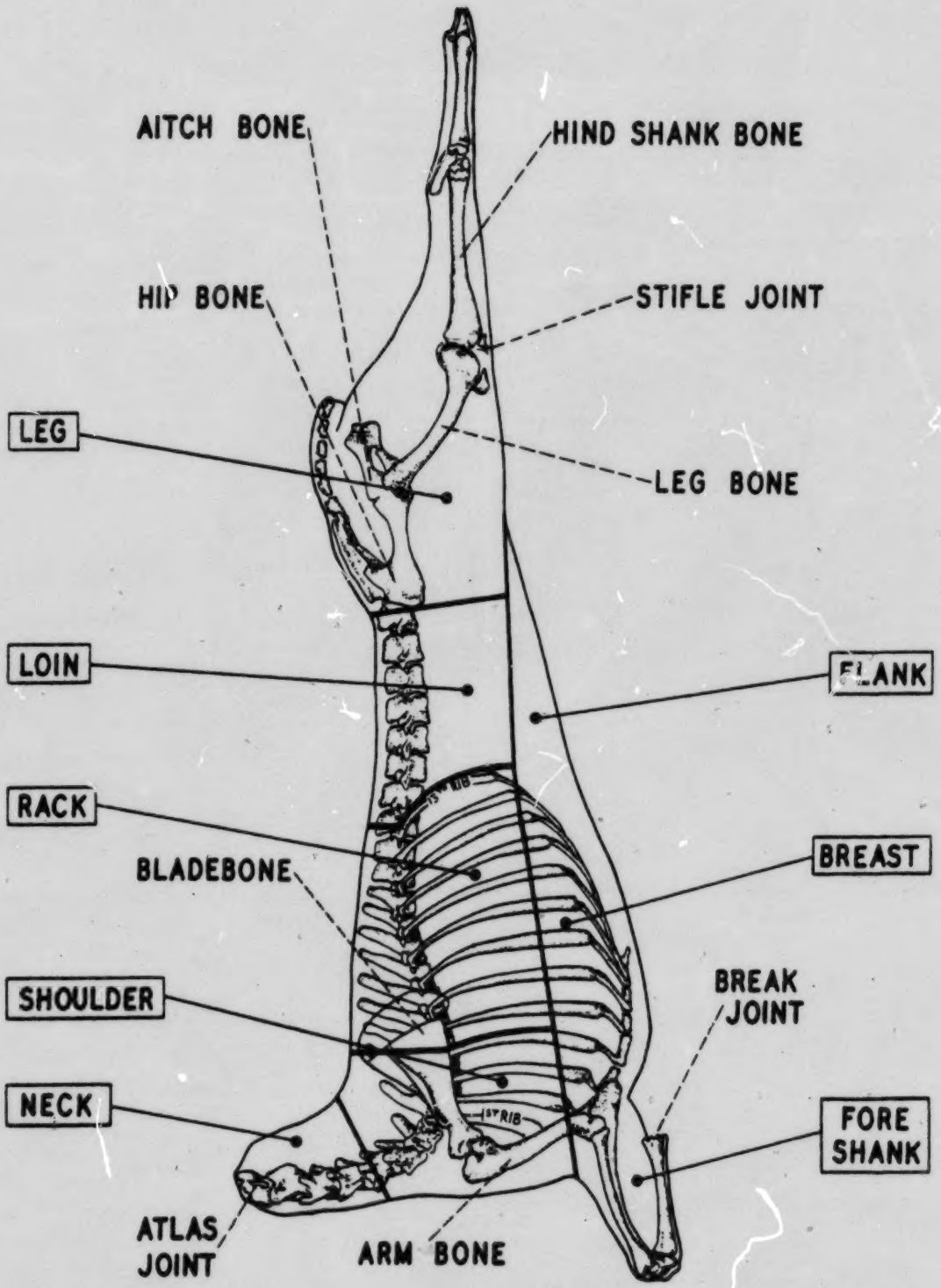
Neck	Bladebone	Aitch Bone
Atlas Joint	Shoulder	Break Joint
Hip Bone	Hand Shank Bone	Rack
Leg	Flank	Stifle Joint
Arm Bone	Leg Bone	Breast
Loin	Fore Shank	



LAMB — WHOLESALE CUTS AND SELECTED BONES



LAMB — KEY

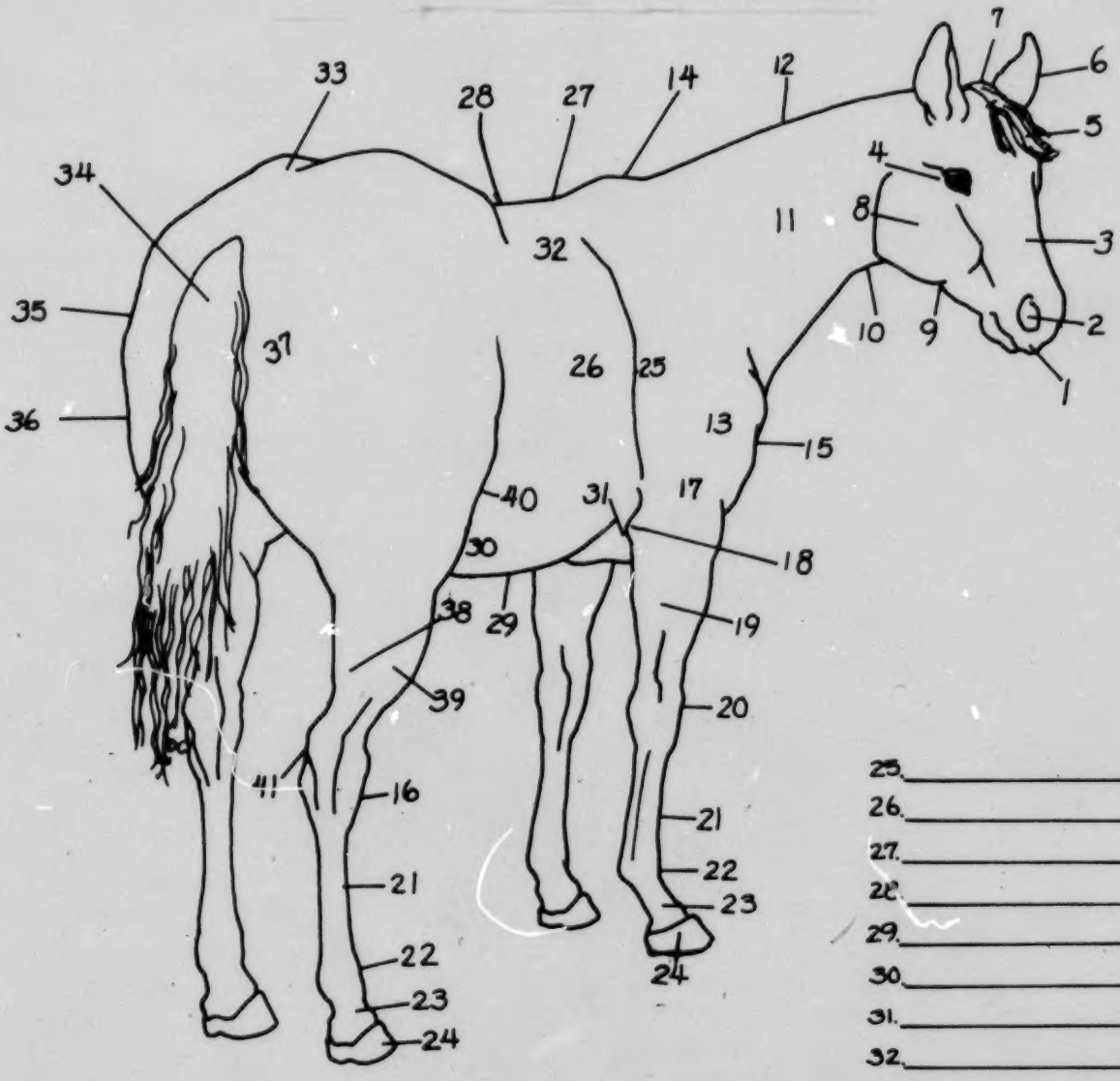

AITCH BONE
HIND SHANK BONE
HIP BONE
STIFLE JOINT
LEG
LEG BONE
LOIN
FLANK
RACK
BLADEBONE
BREAST
SHOULDER
BREAK JOINT
NECK
FORE SHANK
ATLAS JOINT
ARM BONE
1ST RIB

HORSE ANATOMY

Name _____

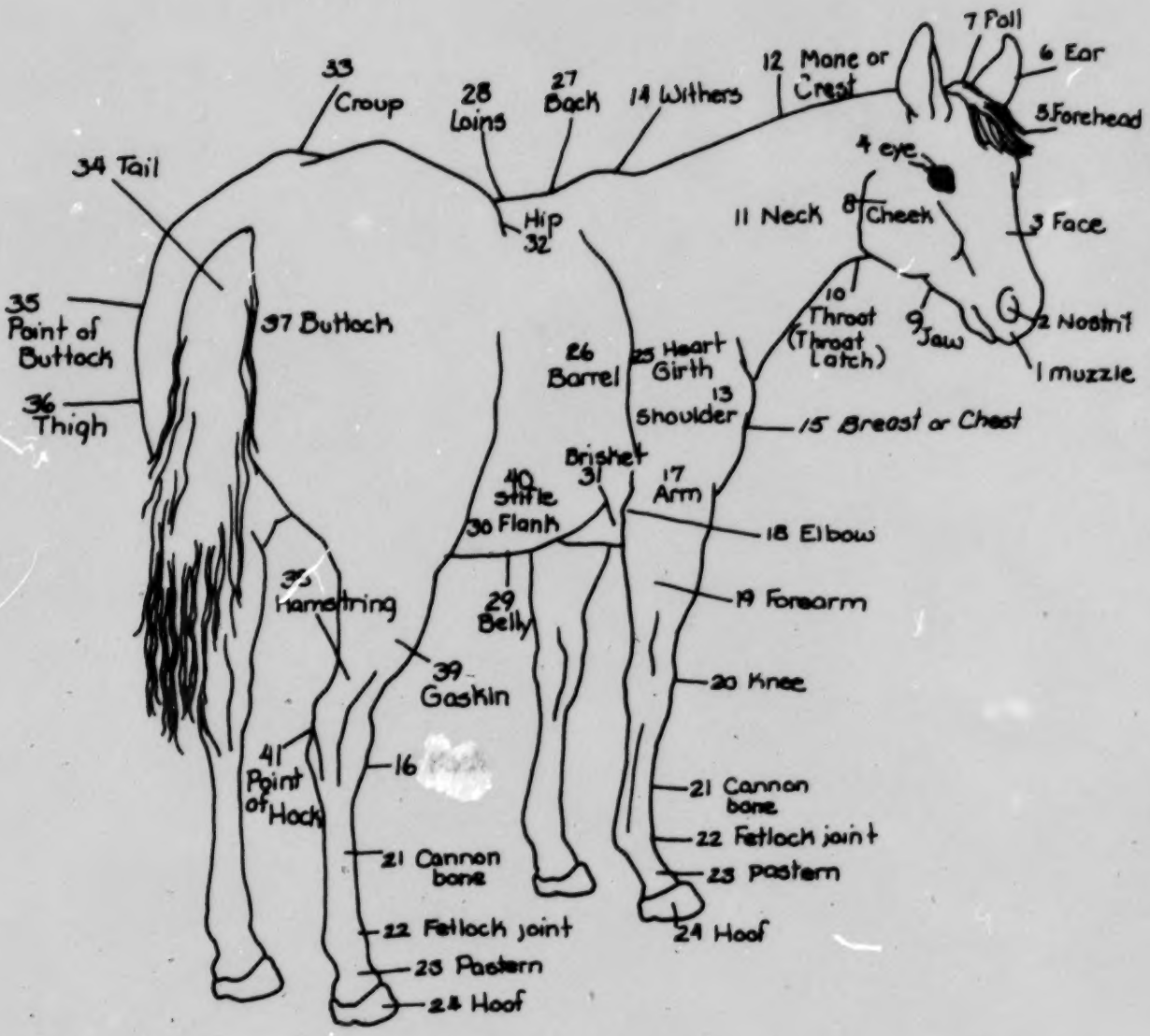
Date _____

Parts of the Horse



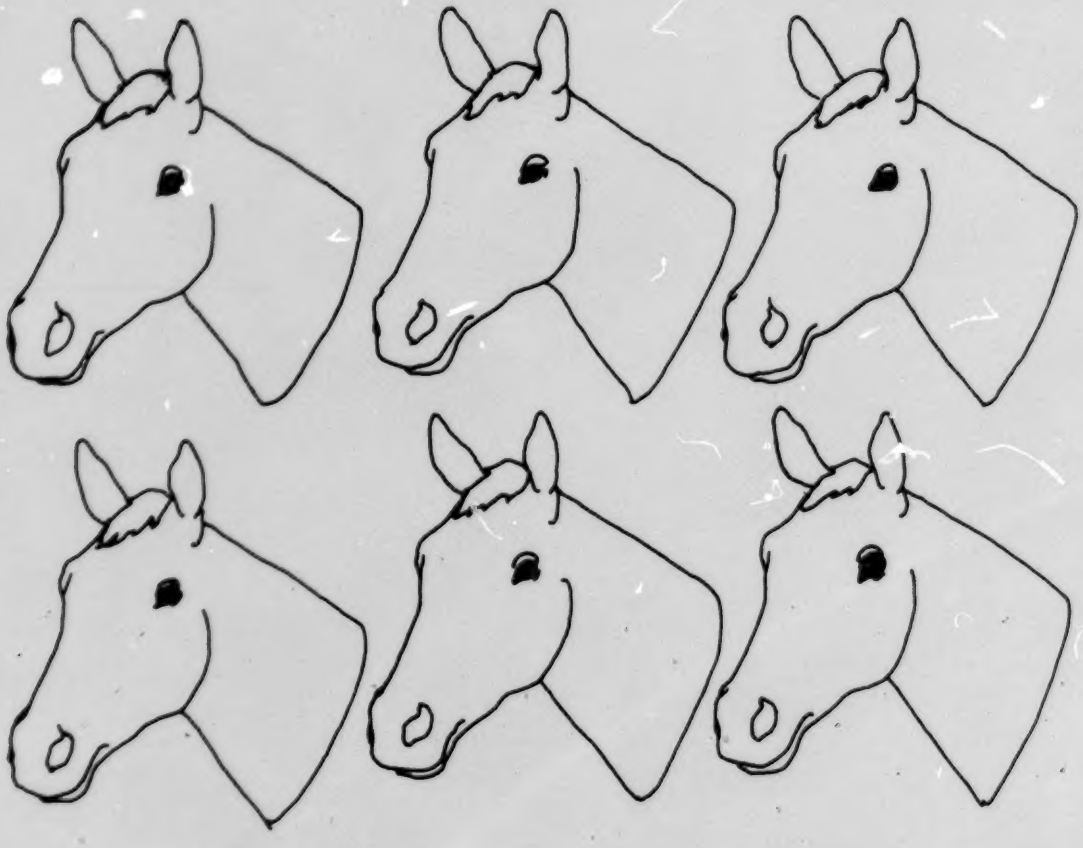
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____
25. _____
26. _____
27. _____
28. _____
29. _____
30. _____
31. _____
32. _____
33. _____
34. _____
35. _____
36. _____
37. _____
38. _____
39. _____
40. _____
41. _____

HORSE ANATOMY — KEY



HORSE MARKINGS

Label and color the drawings according to teacher's instructions.



Breeds of Light Horses

Name _____

Date _____

BREEDS & ADDRESS OF ASSOCIATIONS	PLACE OF ORIGIN	COLOR	OTHER DISTINGUISHING CHARACTERISTICS	PRIMARY USES	DISQUALIFICATION

-191-

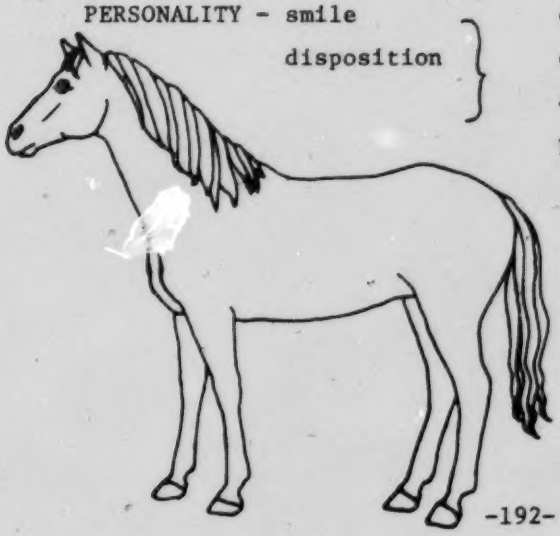
4160/32

JUDGING HORSES

Introduction to horse judging by:

1. Telling students they have already judged people (remind them of the expression "She's a 10.")
2. Ask them to list 5 items they notice first about people in order.
3. Then have the group discuss specifically what you notice about 1 item. Example, face, eyes, nose, etc.
4. Translate these into horse terms and add items students might have missed.
5. Weight items so that each student has developed "his or her own system."

Examples of Student lists	Translated Horse Judging Terms
FACE - eyes (color)	length of head
nose	cleaniness of head and nose
teeth	maleness or femaleness
hair	
LEGS - length and shape	bone structure
	cleaniness of joints
CLOTHES - cleaniness	hair coat - shine
style	- color for breed
variety	- blemishes
shoes	
BODY - shape	height
weight	general conformation
height	overall appearance
PERSONALITY - smile	eyes
disposition	ears
	alertness
	personality



GRAIN CROPS — PROBLEM SOLVING

1. How much N in each of the following:

   a. 400# sodium nitrate_____

   b. 200# ammonium sulfate_____

   c. 1000# ammonium nitrate_____

   d. 300# urea_____

2. The circumference of a grain drill wheel is 12.5 feet, and the drill width is 18 feet. How many turns must the wheel take to cover 1/4 acre?

3. If oats are to be drilled at 3 bushels per acre, and in calibrating the drill, it drops 15# of oat seed per 1/4 acre run, how many pounds is it short of required seeding rate?

4. A pile of wheat is shaped like a cone. The height is 20 feet and the diameter is 60 feet. How many bushels are in this pile of wheat?

5. Your 12-foot sprayer is calibrated to deliver 30 gallons per acre. The total capacity of the tank is 120 gallons. You want to apply 2, 4-D at a rate of 1/2 pound per acre. How many pounds of 2, 4-D would you add to a full tank of water?

6. A rectangular field is 350 feet wide and 1000 feet long. How many acres are there in this field?

7. A common way of estimating grain loss per acre after harvest is to weigh the kernels in 1/1000 of an acre. What is the bushel loss per acre of wheat if there is .2# loss in 1/1000 of an acre?

8. A soil test indicates your wheat field is lacking as follows:

   Low by 40# of available N
   Low by 80# of available P_2O_5
   Low by 40# of available K_2O

   a. How many pounds of a 10-20-10 must be added per acre to bring it up to full fertility level?

   b. Which element(s) would you apply too much of if you applied 500 lbs. of 5-20-5? How much excess?

   c. Which element(s) would you not supply enough of with 500 lbs. of 5-20-5? Amount lacking?

9. How many bushels of shelled corn will a circular bin 16 feet in diameter, 12 feet high hold?

GRAIN CROPS — PROBLEM SOLVING

Supplemental Information

Area of rectangle = L x W

Area of triangle = 1/2 (Base x Altitude)

Area of circle = πr^2 (π = 3.14)

Volume of a rectangular solid = L x W x H

Volume of a cylinder = $\pi r^2 h$

Volume of a cone = $\frac{\pi r^2 h}{3}$

Ammonium sulfate = 20% N

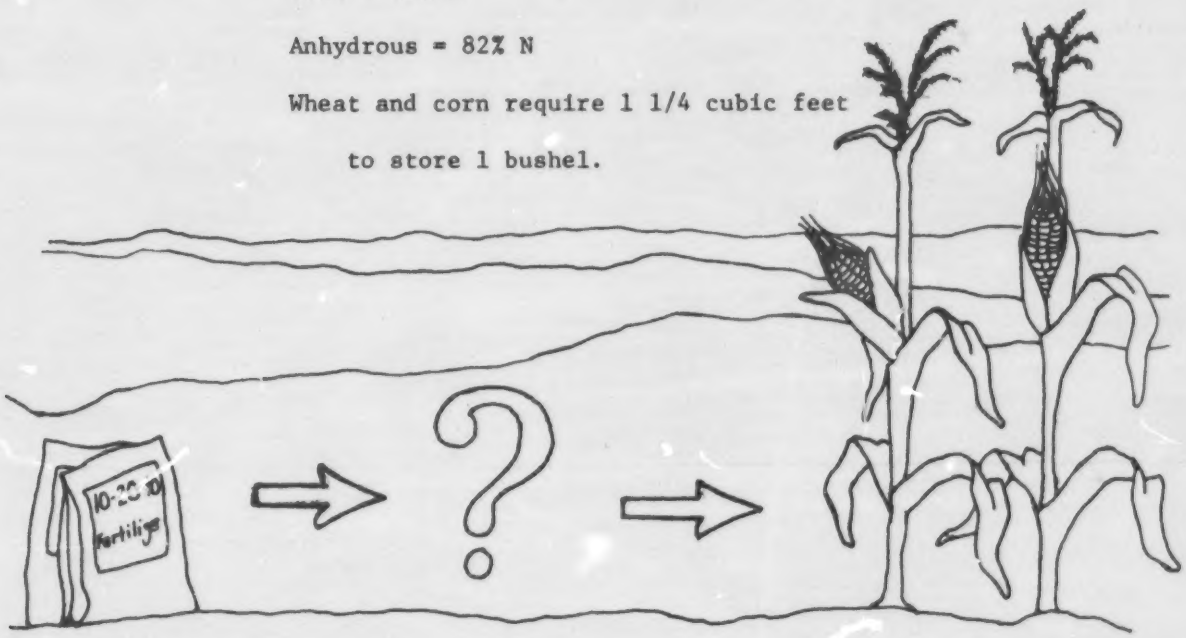
Ammonium nitrate = 33% N

Sodium nitrate = 16% N

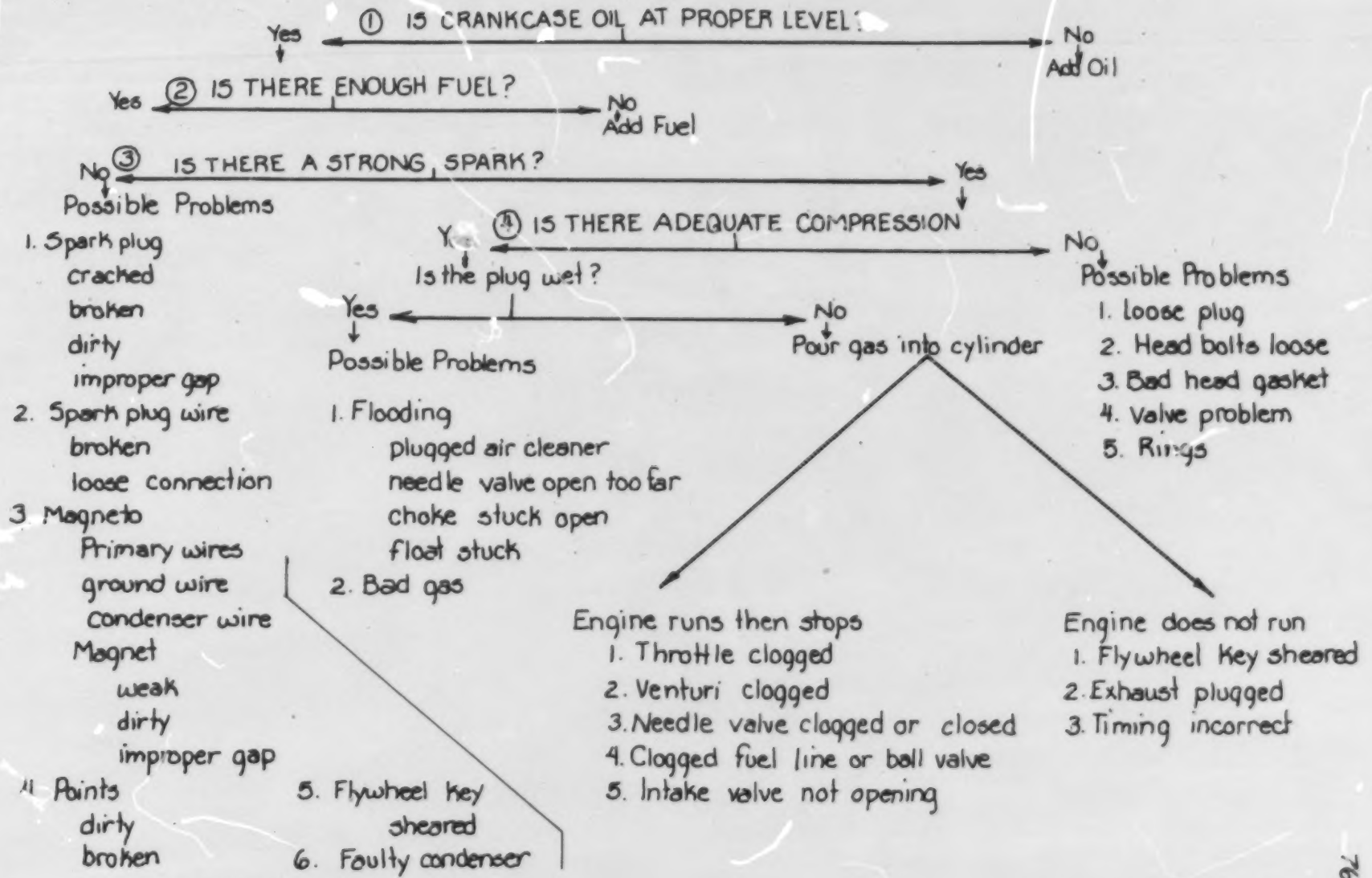
Urea = 45% N

Anhydrous = 82% N

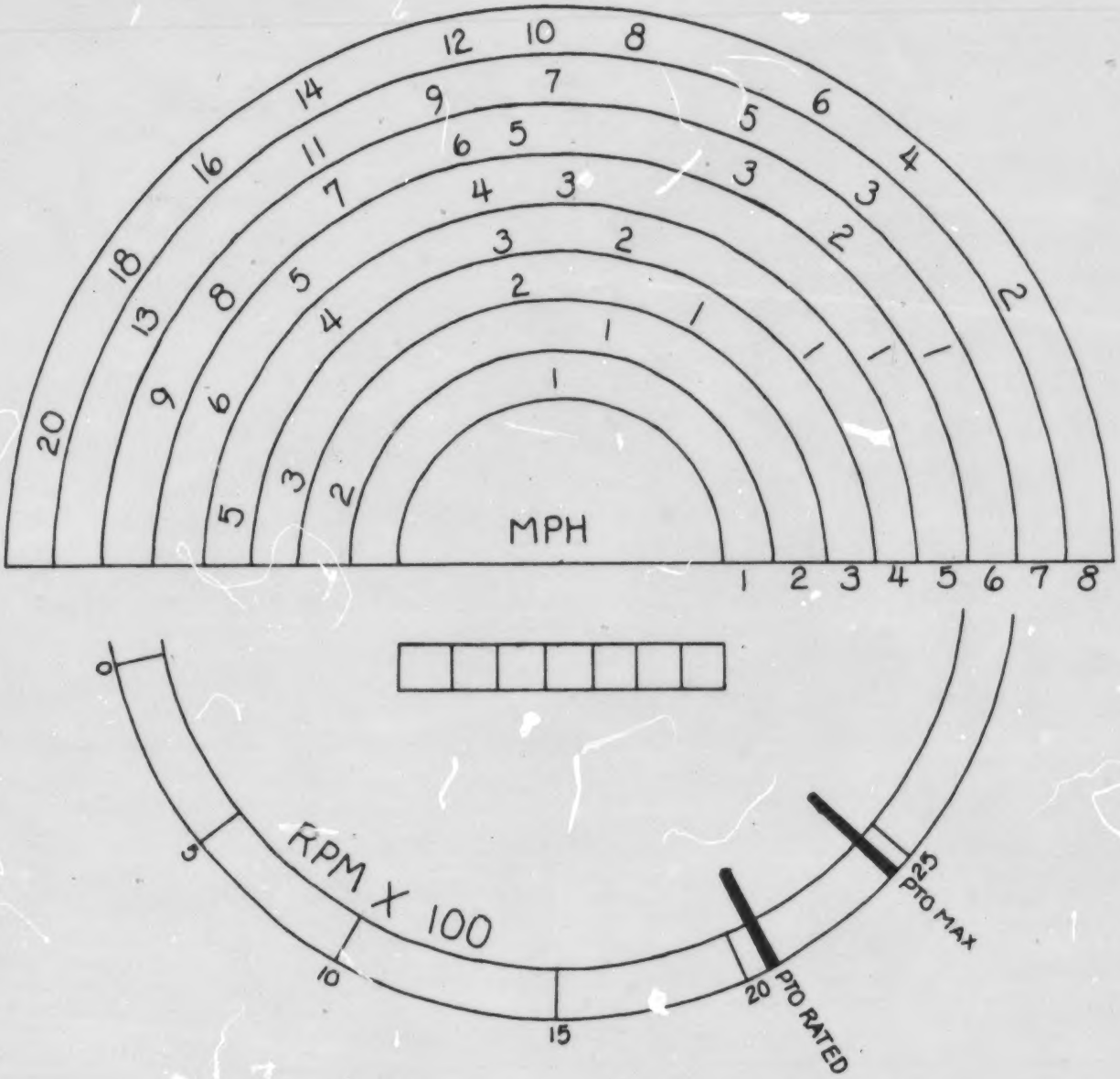
Wheat and corn require 1 1/4 cubic feet to store 1 bushel.



SMALL GAS ENGINE TROUBLE SHOOTING CHART



RPM — MPH DIAL



Students can use this RPM - MPH dial to visualize and solve problems for matching the tractor RPM to the correct gear to give the right ground speed.

Have the students place a pencil on the dial in the position of the pointer or needle. They can move the pencil to locate the correct gear to select to give the ground speed needed for the RPM recommended for the equipment being used. (eg. Will 3rd, 4th, or 5th gear provide the right ground speed for spraying corn when operated at the PTO rating?)

REVIEW GUIDE — 2 AND 4 CYCLE ENGINES

Note: Assignment used in conjunction with reading in Small Engines, published by A.A.V.I.M., pgs. 15-17.

The primary differences between the 2-cycle and the 4-cycle engine are:

-The number of (1) strokes per crankshaft revolution.

-The method of getting the (2) mixture into the (3) and the burned gases out.

-The method of (4) the internal moving parts.

Since the 2-cycle engine uses the (5) for storing a reserve charge of (6) mixture for the next stroke, the crankcase cannot be used exclusively as an oil compartment for lubricating the engine. Instead, (7) is supplied by oil that is (8) with the fuel at the time the engine is (9).

Because of these differences it is important that you know whether your engine is the (10) or the (11) type when you are (12), operating, maintaining, or (13) it. When you are lubricating small engines:

-If you put a mixture of (14) and (15) in the oil sump of a 4-cycle engine, instead of (16), the engine will overheat because of the (17) of proper lubrication.

-If you put (18) in a 2-cycle engine without first mixing it with (19), the engine will (20) because of lack of (21). It will not run very long before the (22) and (23) will overheat, score and (24). Two-cycle engines have a (25) crankcase but no (26).

You can recognize a (27) engine by the presence of its oil sump and by the fact it has an (28), oil can be added to the (29).

Since a 4-cycle engine is dependent on an (30), the (31) at which you operate is (32). Figure 7a(inset) illustrates how the (33) distribution is (34) when the engine is (35) too much.

REVIEW GUIDE — 2 AND 4 CYCLE ENGINES

By contrast, the 2-cycle engine is properly lubricated at 36 _____ angle. The type of 37 _____ is also a limiting factor.

To make small engines 38 _____ under the heavy 39 _____ to which they are subjected, manufacturers provide them with larger 40 _____, larger main bearings and larger oil supplies per horsepower than those in 41 _____ engines.

They are also built to meet a 42 _____ specification which provides that the engine must be designed to operate under 43 _____ at top speed for 1,000 hours. Some have even been known to run as long as 5,000 hours.

Answer Key for differences between 2-cycle and 4-cycle engines.

1.	Power	12.	Servicing	23.	Bearings	34.	Limited
2.	Fuel-air	13.	Repairing	24.	Seize	35.	Tilted
3.	Combustion	14.	Oil	25.	Sealed	36.	Any
4.	Lubricating	15.	Gas	26.	Oil sump	37.	Carburetor
5.	Crankcase	16.	Crankcase oil	27.	4-cycle	38.	Stand up
6.	Fuel-oil-and-air	17.	Lack	28.	Oil filler plug	39.	demands
7.	Lubrication	18.	Gasoline	29.	Crankcase	40.	crankshafts
8.	Mixed	19.	Oil	30.	Oil sump	41.	automotive
9.	Refueled	20.	Overheat	31.	Angle	42.	government
10.	4-cycle	21.	Lubrication	32.	Critical	43.	full load
11.	2-cycle	22.	Piston	33.	Oil		

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BATTERY TOOLS

We all know the importance of batteries in starting and running a vehicle. To keep a battery always in top condition -- ready to serve our needs -- it must be properly maintained. This maintenance is best done using the proper tools to prevent injury to ourselves or damage to the battery or vehicle.

From the list of words which follows the pretest select the proper word that best completes the sentence when it is inserted into the blank.

1. To remove the battery cables from a battery you should use a _____.
2. A_____ should be used to clean the ends of the battery cables where they hook to the battery.
3. A_____ should be used to clean the battery posts where the cables attach. These usually come in two different _____.
4. A_____ can tell you how well charged the battery is by measuring the _____ of the electrolyte.
5. In proper use of a hydrometer you must make sure you have neither too_____ or too_____ electrolyte in the tube.
6. A_____ must be used with the hydrometer in order to determine an accurate reading. The hydrometer alone is accurate only if the electrolyte is_____.
7. You should use a _____ to carry a battery to prevent damage to _____ or the _____.
8. Before doing any work under the hood of a vehicle you should use a _____ to protect the vehicle from _____ and _____.
9. You should coat posts and terminals with _____ or _____ to reduce _____.
10. Because it neutralizes acid _____is good to use when cleaning batteries. Do not allow this to get _____ the battery. When finished be sure you thoroughly _____.
11. To tell you the power a battery has to push electric current through the wires and starter use a _____. A fully charged 12 volt battery should actually have _____volts. A three-fourths charged battery should have about____volts.

WORD LIST OF POSSIBLE ANSWERS (it is possible for a word to be used more than once)

Much	sizes	inside	voltmeter
Little	12.6	battery	specific gravity
scratches	baking soda	corrosion	petroleum jelly
hydrometer	post cleaner	thermometer	(vaseline)
9.6	yourself	liquids	terminal puller
terminal cleaner		80 degrees	wash your hands
fender cover			carrying strap

BATTERY TERMS AND SAFETY

The battery is the heart of all electrical systems. It is necessary to have a good battery of the proper capacity and properly maintained to get your vehicle going so that it can work for you.

Further, your eyes, skin features and even your life can be in danger around batteries unless you use proper safety practices.

Using the words provided below select the proper word as the best answer to the fill-in-the-blank questions which follow. A word may be used more than once.

1. Battery electrolyte is made up of _____ and _____.
2. When a battery discharges the _____changes to _____.
3. When the battery charges the _____ changes to _____.
4. What is the only thing that you should add to the electrolyte? _____
5. Water leaves the battery through the caps as _____ gas and _____ gas.
6. These gases are dangerous because they are _____.
7. A partially discharged battery in cold weather can _____.
8. Even if you do not use a battery it can still _____.
9. Two things which can cause a stored battery to discharge are _____ and _____.
10. Before storage a battery should be _____ and once a month during storage it should be _____.
11. A battery should be stored in a _____, _____ place.
12. On your skin or in your eyes the electrolyte will _____.
13. On your clothes electrolyte will _____.
14. Sparks, open flame or cigarettes near any battery can cause the battery to _____.
15. When working around batteries you must wear _____and_____should wear _____apron and _____gloves.
16. If you get electrolyte on your skin or eyes you should flush the area with water for _____minutes.
17. Two chemicals that can neutralize acid are _____ and _____.
18. When a battery becomes fully discharged and then is fully charged again it is called a _____.
19. The temperature that is considered to be the best for a battery to perform efficiently is _____degrees.
20. A battery will have only half of its rated energy at _____degrees.
21. An engine at zero degrees is _____ times harder to start than the same engine at 80 degrees.

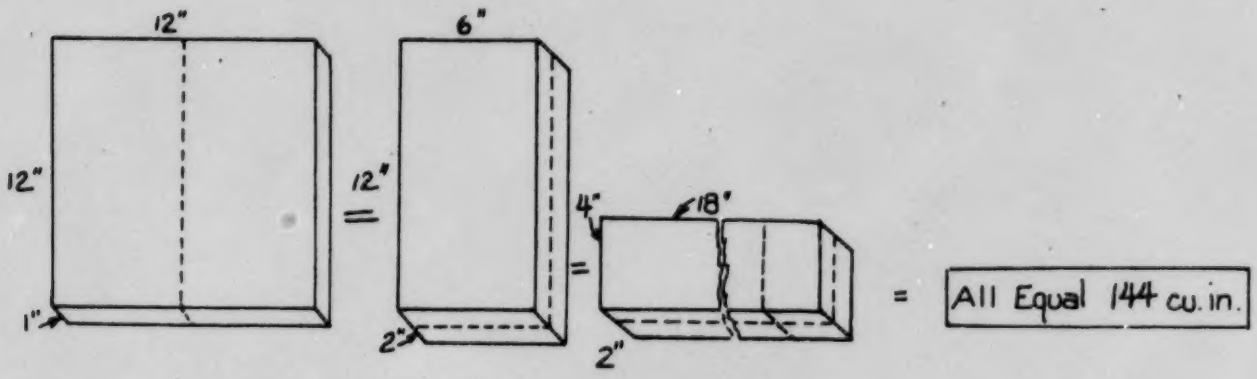
WORD LIST

water	burn	deep cycle	flammable	freeze
sulfuric acid	Ammonia	grease	oxygen	dirt
explode	rubber	10 to 15	moisture	charge
rubber	80	cool	0	eat holes
discharge	2 1/2	dry	hydrogen	baking soda

TEACHING A BOARD FOOT

Take a 1' x 1' x 1" board and cut it up in several different ways.

This demonstrates to students the size or volume of a board foot -- no matter what size board it may be.



WELDING UNIT TESTER

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After students have completed their welding projects, use a tensile tester or some type of measuring device that students can actually measure the quality of their welds.

The resulting strength of their weld can be transformed into an actual grade.

This procedure develops more interest in the unit and a spirit of competition among students

FARM MANAGEMENT DEFINITIONS

Name _____ Date _____

Key Word	Definition

CAREER EXPLORATION

1) NAME OF OCCUPATIONAL CLUSTER_____.

2) LIST THE CAREER AREAS IN WHICH THIS OCCUPATIONAL CLUSTER CAN BE DIVIDED.

3) LIST THE SPECIAL INTERESTS OR QUALIFICATIONS OF PEOPLE WORKING IN THESE CAREER AREAS.

4) LIST 10 JOBS AVAILABLE FOR THE CAREER AREAS LISTED.

1) 6)

2) 7)

3) 8)

4) 9)

5) 10)

5) WHAT ARE THE EDUCATIONAL OR TRAINING REQUIREMENTS FOR ENTRANCE INTO JOBS IN THESE CAREER AREAS?

6) WHAT INVESTMENTS ARE REQUIRED FOR ENTRANCE INTO THESE CAREER AREAS.

7) LIST 6 OTHER SOURCES OF INFORMATION ON THESE CAREER AREAS.

1) 4)

2) 5)

3) 6)

TIPS FOR JOB HUNTERS

1. Prepare an inventory of your qualifications, including educational background, experience, skills, interests, aptitudes and immediate and ultimate career goals. Keep this information in mind during the interview.

2. Study before the interview. Know what the company produces and where you might belong in the scheme of things.

3. Be prompt.

4. Present not only a neat and clean appearance, but also maintain a relaxed and poised posture. Don't distract the employer through nervous gestures.

5. Don't discount the importance of the interview by bringing a friend along.

6. Be honest and clear in answering questions, often referring to your inventory. Ask questions yourself. Don't let the conversation be one-sided.

7. Give a complete accounting of your past wages, employment dates, and your reasons for leaving. Never criticize past employers.

8. When asked about your work experience, give detailed information as it relates to the job you are applying for. Don't just say, "I worked on engines in the Army." Tell what kind of work you did on what kind of engines.

9. Have the names, addresses and phone numbers of three dependable people you are well acquainted with. List them as your references. Use people who really know you and can speak knowledgeably about you.

10. Speak confidently, knowingly and concisely. Use proper English. Don't brag or bluff.

11. Be honest but agreeable. Don't argue or criticize.

12. Avoid discussing personal or financial problems.

13. Be cheerful and amiable, but not familiar. Treat the interviewer with respect.

14. Consider each interview as a learning experience. Analyze your performance and make the necessary improvements before the next interview.

15. If you leave the interview without a job, ask the interviewer to steer you toward other employers with similar job openings in your field.

16. Always keep you career goals, short and long-term, in mind.

900
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AG 9 EXPLORATION

1. Students entering Ag 9 will explore the following 6 topics for 40 weeks:

   -Farm Production and Management
   -Agribusiness
   -Conservation
   -Ornamental Horticulture
   -Food Processing
   -Ag Mechanics

2. Each student is required to keep a notebook on each of the 6 areas.
3. At the beginning of the unit, the teacher provides a series of reference sheets and forms for the students to bring to class daily.

OLD TESTS USED AS TEACHING TOOLS

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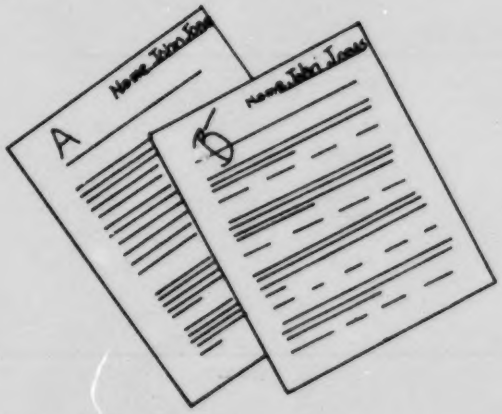
Old tests make excellent review and study guides for classroom use.

Have students use text books and work in groups to complete them; or have them use them as classroom assignments.



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STUDENT TOPIC PRESENTATIONS

Objective:

Second year conservation students are required to do a 30 minute presentation about a topic they have studied during their 2 years in conservation.

Procedures:

1. Students are expected to do their own research.
2. Cameras and film are provided for students to use in preparing reports to have visual aids.

Outcomes:

1. Students learn operation of cameras, successfull picture taking techniques, operation of slide projector, etc.
2. Exercise provides good review of student's 2 years.
3. Students improve techniques in preparing and giving a presentation.

.30/30

MAGAZINE REPORTS

Article Requirements

1. Must be Agricultural
2. Must be at least one page long
3. In your own words
4. Must not be an advertisement
5. Can be in outline form
6. Written neatly

Example:

Name: Tom Jones Month: Sept.
Magazine: Hoard's Dairyman Aug. 25, 1979 (issue)
Article Title: What Does it Cost to go to College
Authors: Henderson, Rosli, Niedermeier
Pages: 960-961

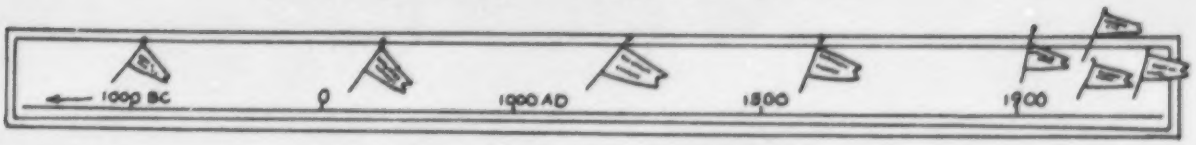
This article by three college professors, answers some of the questions any boy going to an agricultural college might ask himself about college costs. It was pointed out that costs do vary between colleges for housing, food, books, and tuition. The cost ranges between $10,000 to $20,000 for four years. It pointed out that part-time work and summer jobs can lighten the financial burden. Studies showed that over 50% of all agricultural students in college work part-time and their wages ranged from $3.25 to $4.25 an hour. "A student can usually work between 15 and 20 hours a week if he budgets his time well," states Dr. R.P. Niedermeier, a member of the University of Wisconsin's Dairy Science Department. Employmemnt opportunities were stated as good for most colleges although it was not recommended that students work their first semester because of adjustment to college life. Summer construction jobs are very popular with students because of the big money involved. I recommend this article to any student thinking about going to college because it answers many questions.

Agricultural Magazines: A list of selections

1. The Furrow
2. Hoard's Dairyman
3. American Agriculturalist
4. National Future Farmer
5. Northeast Agr.
6. Successful Farming
7. Orleans County Farm News
8. Farm Bureau Report
9. Doane's Agricultural Report
10. Agri-Education
11. American Fruit Grower
12. Farm Journal
13. Better Crops with Plant Food
14. Mobil Farm Future
15. Dairy Breed News
16. New Jersey Milk Marketing
17. Crops and Soils Magazine
18. Farm Safety Review
19. IH Farm Forum
20. Animal Nutrition and Health
21. New York Food & Life Sciences
22. PCA/FLBA Farming
23. School Shop
24. Conservationist
25. Early Riser
26. Agri-Finance
27. Harvestore Farmer
28. The Northeast Improver
29. Dairy News
30. Nepco Today
31. Lincoln Stabilizer
32. Eastern Breeders Co-Operator
33. Muck Notes

Note: Magazine reports are a great way to keep teachers and students up to date!

AGRICULTURAL TIME LINE



Create an agricultural time line to get your students involved in exploring great moments in the history of agriculture. It will also give them a perspective of the fantastic rate of change and explosion of information in recent history.

1. Identify a number of significant events in the development of agriculture. These might include events such as:

    a. the domestication of animals
    b. the first tractor
    c. hybrid seed corn
    d. artificial insemination
    e. the discovery of corn

2. Place each event on a card and distribute one or more to each student or have them draw a card.
3. Each student is to research their event - date in history and possibly some background information.
4. Mark a scaled line of time across the top of the chalkboard or bulletin board from the beginning of time to the present.
5. Each student is to pin or tape a small flag to the time line at its respective time in history.
6. Students may give a few comments or a short report regarding their event to the rest of the class.
7. Encourage students to identify other major events that should be added.
8. Try having students predict new developments and their place on the time line into the future.
9. Students get excited about what has happened - as well as when and where it happened.

UNIT FACTORING FOR AG MECHANICS

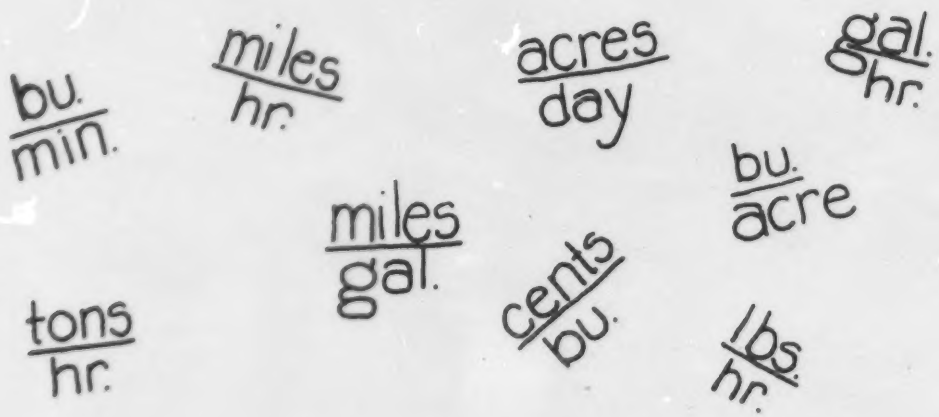
If data is taken in convenient terms, unit factoring can be used to "solve" conversion problems without memorization of complex formulas. Unit factoring is a bookkeeping system for labels.

Example:

A farmer is harvesting grain (oats) with combine with a 14' head. He wants to get an idea of the crop yield. To do this he finds that he fills a 47# bag of oats in 37 seconds while holding the speed to 4 miles per hour. If the oats test to 32#/bushel, what is the yield in bushels/acre?

$$\frac{\text{Bu}}{\text{Acre}} = \frac{47\#\ \cancel{\text{oats}}}{37\ \cancel{\text{sec.}}} \times \frac{1\ \text{bu.}}{32\#\ \cancel{\text{oats}}} \times \frac{1\ \cancel{\text{hr.}}}{4\ \cancel{\text{mi.}}} \times \frac{1\ \cancel{\text{mi.}}}{5{,}280\ \cancel{\text{ft}}} \times \frac{1}{14\ \cancel{\text{ft}}}$$

$$\times \frac{43{,}560\ \cancel{\text{sq. ft}}}{1\ \text{Acre}} \times \frac{60\ \cancel{\text{mi.}}}{1\ \cancel{\text{hr.}}} \times \frac{60\ \cancel{\text{sec.}}}{1\ \cancel{\text{mi.}}}$$



Resource Material: Farm Power and Machinery Management by Donnell Hunt; published by Iowa State University

USING AG PUBLICATIONS

1. As farm publications are received each month, index on a 3 x 5 card, all articles that pertain to course of study.
2. Each card should include the title of the article, the date of publication, and a brief description of the article.
3. Publications are then displayed in an open book rack where students are encouraged to examine and read them.
4. At appropriate time assign students to give an oral report on a given subject. This report should be on subject matter pertaining to material being studied in class. Students are given 20 - 30 minutes to prepare report.
5. Grade sheet on report
    a. order of presentation
    b. understanding of content
    c. clear speaking voice
    d. answers to questions at end of presentation

Oral reports can be used every 2 - 3 months when students are "bogged down" in a difficult area of study (like income tax).

Students enjoy doing these reports as they provide a constructive break from a strenous area of study.

FFA CREED SPEAKING CONTEST.

1st week of school students learn FFA creed, 1 paragraph a day (reciting it), and for each paragraph they get a 100.

Purpose of learning FFA Creed

1. introduce FFA.
2. motivate students' interest in FFA.
3. motivates students to keep grades up.
4. helps students get "greenhand degree".
5. Creed speaking contest - prize is FFA jacket.

Rules

1. Student must memorize the FFA creed and be able to recite it from memory with out the aid of "notes".
2. Student must stand in front of judges to recite FFA creed.
3. After reciting creed the student should be able to answer any questions concerning meaning of the creed.

.50
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FFA CREED SCORE CARD

FFA CREED SPEAKING CONTEST

NAME _____

POINT INFORMATION	CONTESTANT'S SCORE
1. ABILITY TO RECITE CREED 50 points 10 points per paragraph	1. _____pts. 2. _____pts. 3. _____pts. 4. _____pts. 5. _____pts.
2. SPEAKING ABILITY	
VOICE QUALITY 10 points	_____pts.
CLARITY AND VOLUME 10 points	_____pts.
POISE AND POSTURE 5 points each	
POISE	_____pts.
POSTURE	_____pts.
3. MEANING OF THE CREED	
ABILITY TO ANSWER QUESTIONS 10 points	_____pts.
INTERPRETATION OF CREED 10 points	_____pts.
TOTAL SCORE	_____

"BIG MAN IN CHICAGO" GRAIN MARKETING

Objectives: Students are to -

1. Interpret factors affecting price changes
2. Chart daily market changes
3. Understand the principle of risk in speculation
4. Become more motivated for studying the unit on grain marketing

Materials:

1. Graph paper
2. Local daily paper with markets -- or --
3. A recording of the evening/morning market report

Time Period:

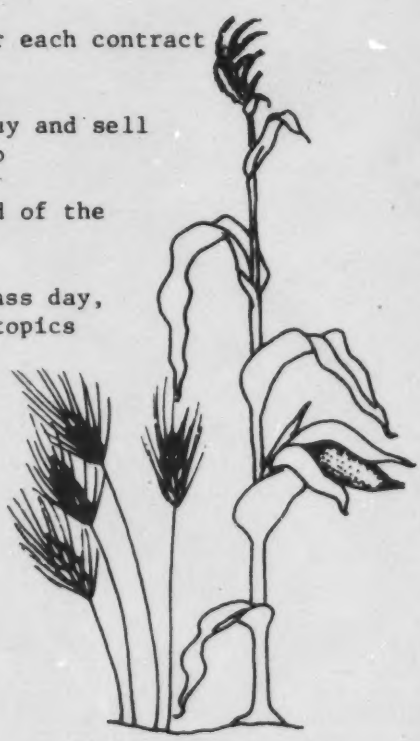
1. Begin charting 2 weeks prior to the unit on marketing
2. Maintain the chart for 4 to 6 weeks

Procedures:

1. Each student is given contracts

   - either 2 of soybeans or 4 of corn
   - each contract is for 5,000 bushels

2. Students begin charting the daily prices for each contract month for their grain
3. During the simulation the students are to buy and sell the contracts, just as a speculator would do
4. The student making the most money at the end of the game receives extra credit points
5. Open the markets for only 5 minutes each class day, therefore not taking time away from normal topics



RUNNING YOUR RECREATIONAL BUSINESS

Have the students set up a recreational business. The simulation will help students to developing thinking and planning abilities as they consider all the elements.

Items to include in the planning of the business are:

- accessability
- site selection
- management
- insurance
- merchandising
- financial help
- technical help
- location
- part time
- full time
- hired help
- equipment needs
- safety
- maintenance

The simulation help develop positive student attitudes toward the recreational facilities that they use.

MAKING A MODEL FARM

Have the class build a model farm to put into perspective the material they are covering in class.

1. Divide the class into groups of 4 or 5.

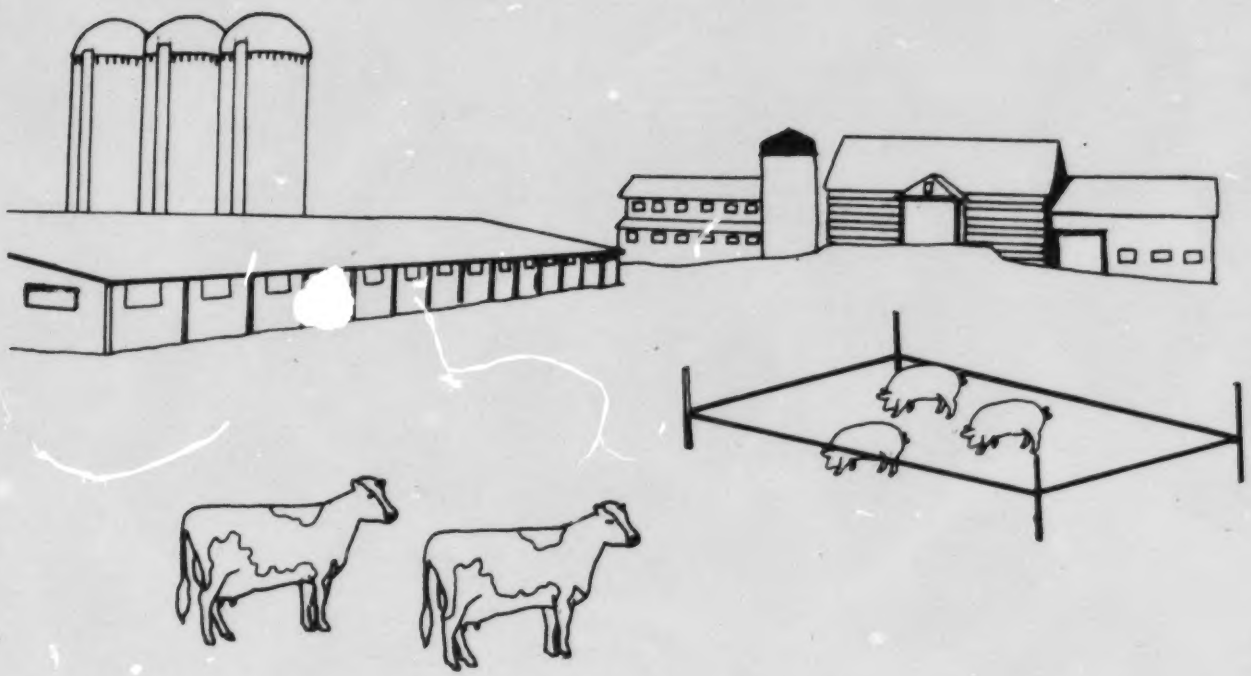
2. The idea is to whet their appetite for taking Ag or taking advanced Ag courses.

3. When discussing sheep, swine, or dairy give them 1 or 2 periods per week to build the model farm using colored paper, plywood, toy tractors, animals, etc.

4. The students supply the imagination -- you supply the rules of thumb (ex. how much barn space per pig, how many acres of hay per cow, etc.)

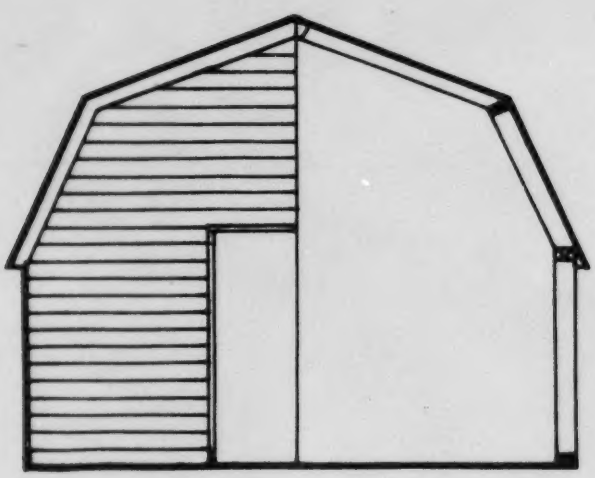
5. Depending on the type of animal discussed you may find that students who have worked with animals feel good in sharing their knowledge with their peers.

6. Let them play "teacher" and the other students like to learn from them.



CONSTRUCTING A UTILITY BUILDING

1. Construct a 6' x 8' utility building.
2. Use the ag mechanics class in alternate years.
3. Make it a 10 week unit on all aspects of construction.
4. Include laying blocks, joint construction, walls, roof, and electrical wiring.
5. Sell the building at school or through the FFA.
6. Establish a typical construction crew arrangement for assignments -- foreman, workers, specialists, etc.

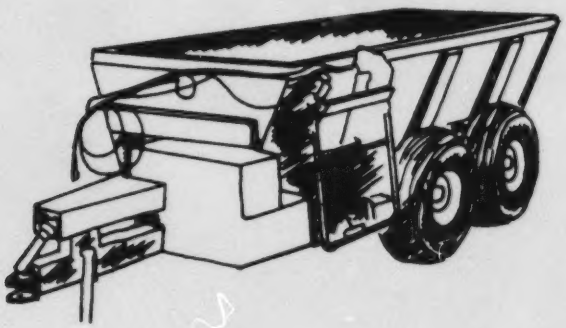


ASSEMBLE AG MACHINERY

1. Work through the local ag machinery dealer to arrange the set up of new agricultural equipment.

2. Get a manure spreader or other piece of equipment bundled for shipping.

3. Have the students set up their organization with a foreman and special assignments for the assembly of the equipment.



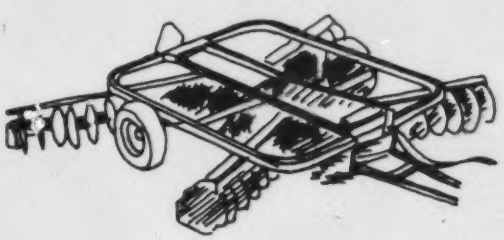
FARM MACHINERY AUCTION

1. Attend a farm machinery auction.

2. Assign certain items of equipment for each student to report back to class about.

3. Reports include:

   - what was the selling price
   - what condition the equipment was in
   - amount of interest in the equipment



FORM FFR 251A
NATIONAL FARM & POWER EQUIPMENT DEALERS ASSOCIATION ST. LOUIS, MISSOURI PRINTED IN U.S.A.

LETCHWORTH FFA

GAINESVILLE, N. Y. 14066

Nº 100

	QUAN.	PART NO.	DESCRIPTION	PRICE	TOTAL
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

TOTAL PARTS

OTHER MATERIALS

24		OUTSIDE WORK			
25					
26					
27					
28			TOTAL OTHER MATERIALS		

NAME | CUST ACCT NO

ADDRESS | CUST ORDER NO

TYPE OF MACHINE | HOURMETER READING OR MILEAGE | PHONE NO | DATE RECEIVED

MAKE | MOTOR NO | DATE PROMISED

MODEL | SERIAL NO | ORDER WRIT BY

WORK TO BE DONE:

CHANGE OIL ☐ FLUSH TRANS ☐ FLUSH DIFF ☐ CLEAN ☐ PAINT ☐

GALS. ..... FUEL @ .....

QUARTS OIL @ .....

POUNDS GREASE @ .....

TOTAL GAS, OIL, GREASE

I hereby authorize the repair work to be done as described above on the machine(s) named hereon. All repair parts are to be billed at your regular prices. I agree to pay cash for such repair parts and labor on delivery of machine(s) or on terms satisfactory to you and until paid in full and unpaid balance shall constitute a lien on this machinery. I further agree that you will not be held responsible for loss or damage to said machinery from fire, theft or other causes beyond your control.

SIGNED _____ DATE _____

TAL SERVICE	
OTAL PARTS	
GAS, OIL, GREASE	
OTHER MATERIALS	
OUTSIDE WORK	
TAX (WHERE APPLICABLE)	
TOTA	245

The Ag Mechanics Programs are run on a 'Dealership Simulation' basis. I have 2 competing dealerships fixing equipment, ordering parts, keeping records, completing time cards and most important making management decisions.

The 'Dealership showing the most profit is 'treated' to a shortened version of the final test. The 'Dealership Simulation' has been an excellent motivational tool and has taught many of the students responsibility. It has also given them an opportunity to learn management skills, working with people both customers and on an employer-employee relation. Students chosen for dealer should be students who will be in a management position some-time. The students also learn time and job relationships. The dealer completes 'Employee Evaluation Sheet' so that the students can see how they are progressing as workers.

AG MECH SHOP DEALERSHIP

DYNAMOMETER CHART ON REVERSE SIDE

-218-

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Thank You

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EMPLOYEE EVALUATION SHEET

NAME _____ MONTH _____

POSITION _____ RATING _____

WORK HABITS:

1. Skill and Accuracy ____
2. Efficient Use of Time ____
3. Work Area Neat and Orderly ____
4. Accepts Responsibility ____
5. Interest in Work ____
6. Punctuality ____

PERSONAL AND PUBLIC RELATIONS:

7. Relationship with Customers and Manufacturer ____
8. Personal Appearance ____
9. Enthusiasm ____
10. Attitude Toward Job and Company ____

APTITUDE AND ABILITY:

11. Attends Company, Manufacturer School and Professional Meetings ____
12. Self Education ____
13. Ability to Learn ____
14. Follows Instructions ____

DEPENDABILITY AND JUDGEMENT:

15. Cooperation ____
16. Loyalty to Employer ____
17. Uses Good Sound Judgement ____

COMMENTS: _____

_____

_____

RATING:

9		6		2	
8	Excellent	5	Average	1	Poor
7		4			
		3			

OWNER/MANAGER _____ Date ___

INSTRUCTOR _____ Date ___

EYE INJURIES

A safety violotion in the shop in relation to eye care can be cured by requiring the student to wear safety glasses with the side shields taped with black electrical tape and the lenses painted black to simulate eye loss. Their alternative is a period of detention. This gives them personal experience with "temporary blindness."

A SERIOUS ACCIDENT

Obtain a member of the class before session begins, bandage his arm inside his shirt. Then have him enter the room with one shirt sleeve dangling. Relate to students that the student had an accident and has lost his arm. Have him/her perform various tasks such as tying shoes, buttoning shirt, and other every day situations. This makes a good impression of need for safety around farm machinery, especially around PTO's.

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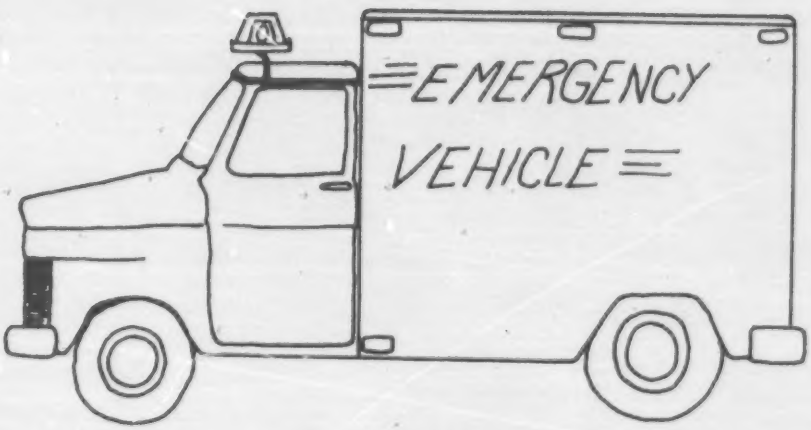
EMERGENCY SAFETY UNIT

Contact the members of the local emergency squad or life safety unit and arrange for the ambulance or emergency vehicle to be brought in to the shop.

The rescue squad members could explain and demonstrate their equipment and procedures to the students.

Have them talk about emergency medical care in the case of an accident and explain what students should do.



SHOP SAFETY AND TROUBLE SHOOTING

Each student must assume the position of "trouble shooter". His or her job would be to bring to the attention of the teacher and students any dangerous situation in the shop.

1. Rotate "trouble shooter" assignments
2. Students in charge of goggles and safety shield placement
3. Trouble shooter would also be concerned with equipment repair
4. Equipment maintenance is scheduled and performed
5. Inspection when shop is empty as well as full and busy

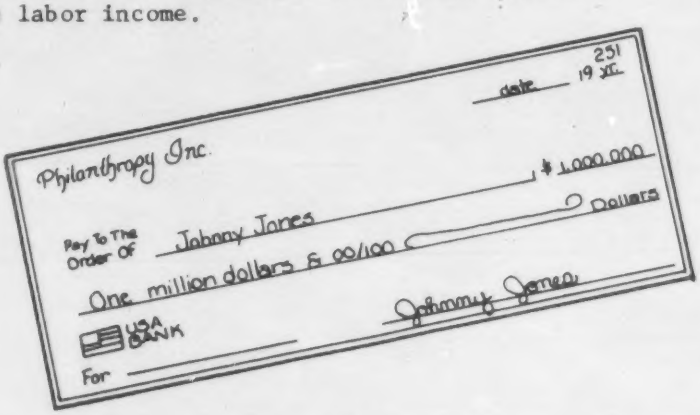
This may help each student to become more aware of dangerous situations as well as safety measures and procedures.

USE OF FARM CASH ACCOUNTS

Cash Farm Accounts -- for labor income -- 818

Give each student a check for $1,000,000 and have them tell you how they would spend every cent of it and what they would do with their lives from this point on -

Most will put some in the bank and live on the interest, thus interest must be charged against average capital to calculate labor income.

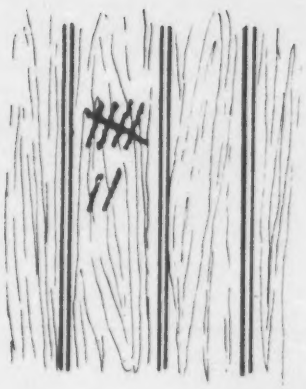


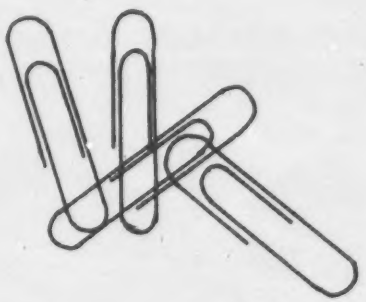
KEEPING FARM RECORDS

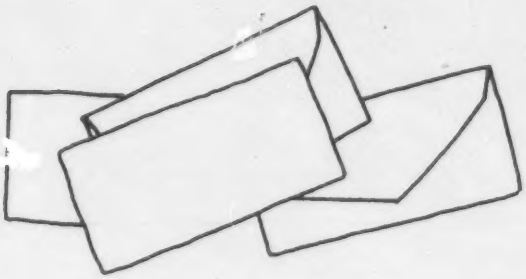
Farmers use many different record keeping systems. The important thing is not the particular record keeping system, but how complete is it and does the farmer use the information to his benefit.

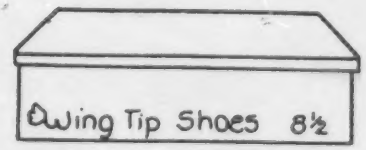
Use some of the following items as props to role play different record keeping systems:

1. A piece of barn siding - you know how the farmer makes a mark on the side of the barn for each load of hay put in, each load of grain to the elevator, etc.
2. A handful of rubber bands - to bundle sales slips, bills, etc.
3. A number of crumpled envelopes - to store bills by months
4. A handful of paper clips
5. An old shoe box
6. -- certainly you can think of other items to use ----





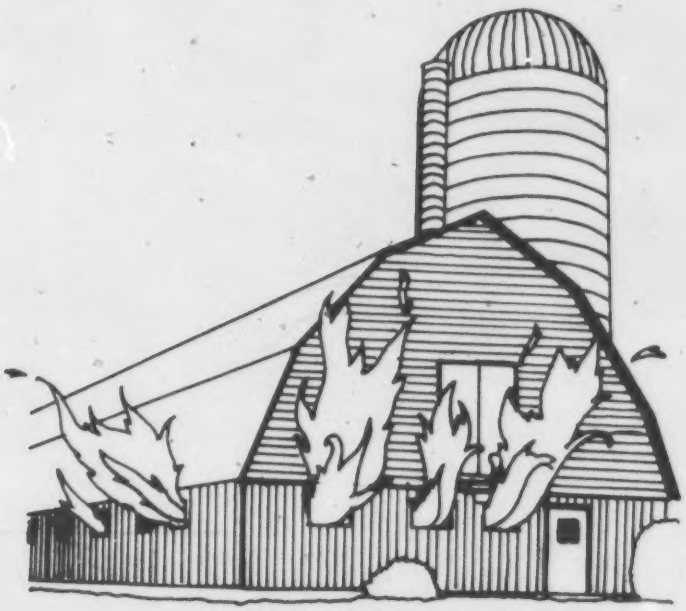




THE INSURANCE ADJUSTOR

This role play can point out the importance of a complete inventory.

1. Have students make a list in 10 minutes of everything they have in their home, barn, or machinery shop.
2. Tell them that "you just had a fire and lost everything".
3. Play the role of the insurance adjustor and give them a hard time about what items on the list are worth.
4. Students usually forget some obvious items.
5. You can make a big thing out of not having to pay for these items.
6. Be careful not to make a class point of a student who might have had a real fire and tragedy at home.



EMPLOYMENT INTERVIEW

1. Obtain the services of a qualified individual to run mock interviews with students in the presence of the entire class.

   Consider people such as:

   - Employment services
   - Agribusiness people
   - Government service (ASCS, Extension, FmHA, etc.)
   - Teachers

2. Each student critiques the interview.

3. Interruptions that commonly occur can be introduced

THE JOB MARKET IN DAIRYING

Why learn to milk a cow?

- This could get a job anywhere in the U.S.A. or abroad.
- At the start of your dairy unit assign pairs of students to make a summary report of help wanted ads in the Hoards Dairyman.
- Spot the job locations on a U.S.A. map.

HELP WANTED

EMPLOYERS NEEDING HELP or capable and depend able persons seeking employment. Nationwide coverage. Contact us anytime. 206 687 4247. SHORT ORDER HELP, 24101 Northeast 132, Bat tle Ground, Washington 98604.

EXPERIENCED DAIRYMAN/HERDSMAN needed for Holstein herd in modern pipeline parlor. Prefer A.I. experience. Also, opening for relief milker ex perienced in field work. Houses provided. Salary open. PETREY FARMS, Petrey, Alabama 36047. Phone 205 335 5200 days, 205 335 5205 nights.

EXPERIENCED HERDSMAN/MANAGER needed for 1,000 cow South Florida dairy farm. Job includes management of milkers, dairy equipment and breeding program. A house and truck are provided in addition to good salary. Send resume to BOX 140 care Hoard's Dairyman, Fort Atkinson, Wis consin 53538.

WANTED: Experienced, mature, single man to help women farm 280 acre dairy farm. Partnership pos sible. P.O. Box 113, Arcadia, Wisconsin 54612.

RESPONSIBLE DAIRY HERDSMAN for Holstein herd, to help milk, manage, A.I., herd health and record keeping. Wages according to ability. ARTHUR HALL, Route 1, Claremont, North Carolina 28610. Call 704 459 7632.

ASSISTANT HERDSMAN for 140 Holstein herd in Central Iowa. Double 4 herringbone parlor. Housing furnished. Salary depending on experience. PHONE 515-994-2040 or 515 994 3015.

DAIRY JOBS NATIONWIDE

WANTED: Dairy Farm Superintendent. Dr. J. B. Fryer, Jr., Head, Department of Dairy Science, LOUISIANA STATE UNIVERSITY, Baton Rouge, Louisiana 70803. Refer to April 10 issue for details.

EXPERIENCED MILKER, 6 day week, 100 head, mo bile home. CHARLES SCHEESE, JR., Route 3, Box 18, Monticello, Florida 32344. 904 997 3034.

DAIRY DEVELOPMENT, LATIN AMERICA. well-known international company seeks personnel for tech nical assistance to farmers and training of farmers and local advisors in selected geographical areas in Latin America. Good theoretical and practical experience in tropical milk production and dairy development required. Spanish and English. Two year contract. Send curriculum vitae or other de tailed descriptions of education and work ex perience and references to BOX 157, care Hoard's Dairyman, Fort Atkinson, Wisconsin 53538, USA.

UNIVERSITY OF CALIFORNIA Farm Advisor Dairy. Cooperative Exten County. Conduct extension education/research program in dairy feeding, housing, milking, pro duction testing, reproduction, waste handl ce as a resource on l d use planning and posal regi ory limi Dair

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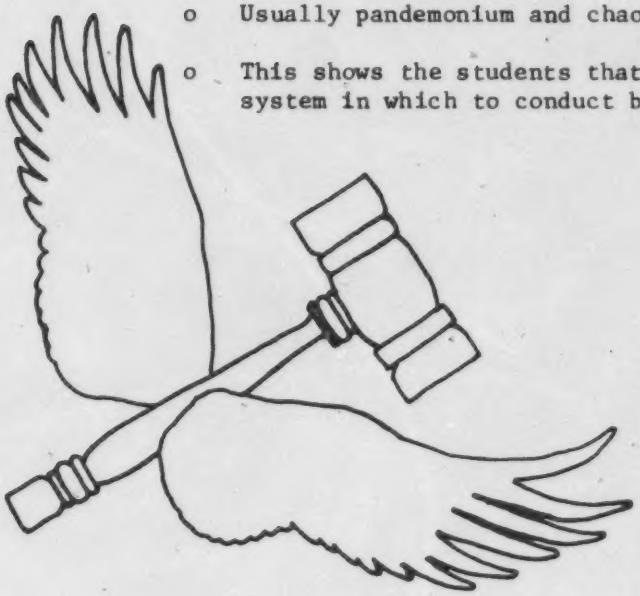
THE VALUE OF PARLIAMENTARY PROCEDURE

- Tape a $5.00 bill to the chalkboard
- Give the students 5 minutes to figure out how to agree to give <u>one</u> individual the whole amount
- Usually pandemonium and chaos win out
- This shows the students that you need an orderly system in which to conduct business



THE FISHBOWL

A Group Task Achievement Device

One of the frequent training tasks in community organization and development is to work with large groups in task-oriented situations requiring goal setting, need or problem identification, resource mobilization and the resolution of individual differences into group cohesiveness and productivity. *Parliamentary* procedures (which allow decisions to be made by a simple majority) yield to *consensus* methods which require total group unity as an essential basis for agreement and action.

The "fishbowl" is a group process mechanism, or device, which enables groups to move swiftly toward task accomplishment while achieving maximum individual participation in the process. A number of steps are involved.

I—Individual Task Assignment (5 to 10 minutes)

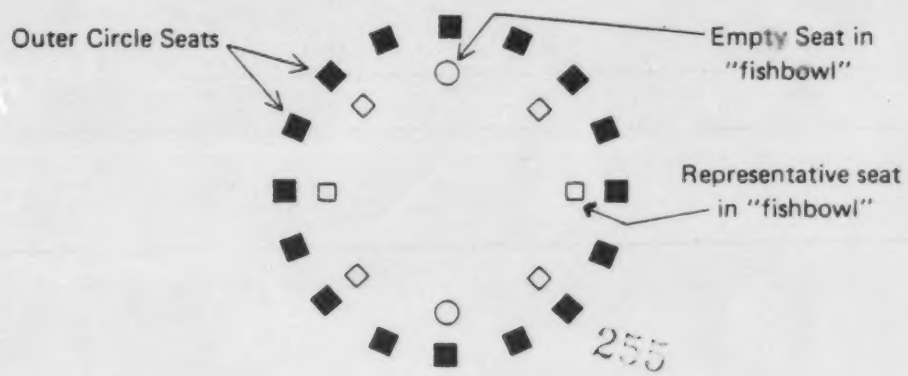
Individuals are asked to list on a sheet of paper those goals which they believe are most important and most urgent for the group. The goals are numbered according to priority. (The task may focus on other things besides "goals" such as: problems, needs, resources, etc.) When individuals have completed their task assignment, they seek out another person with whom they would like to work in Step II.

II—Task Assignment for Pairs (15 minutes or more)

III—Quartet Task Assignment (20 to 30 minutes)

The "fishbowl" is simply a physical arrangement in which the group representatives are seated in a circle facing each other, while the other sub-group members are seated in a larger circle around them. Two extra chairs are placed in the inner circle for use of members of the outer circle who wish to make some brief input or contribution to the action in the "fishbowl" (see diagram).

Diagram



THE FISHBOWL

IV—The "Fishbowl" Task Assignment (30 minutes or more)

The sub-group (quartet) representatives take their seats in their designated chairs in the "fishbowl" and set about the task of creating a final, refined list of prioritized goals, based on data gathered in the preceding steps. Consensus is used as the process of decision making. The final results are recorded on newsprint and the goal identification and prioritization process is completed.

Members of the outer circle must remain silent while their representatives in the "fishbowl" carry out their task assignment through discussion and action. The outer circle members, however, can speak, or get in on the action, in two ways:

1. Take one of the empty seats, make his or her input, and leave.

2. Tap his or her "fishbowl" representative on the shoulder, whereupon the "representative" must relinquish his or her chair and join the outer circle. The person "tapping in" now becomes the sub-group representative and must stay at the task until it is completed, or until he or she gets "tapped out" in turn.

V—Process Evaluation (5 to 10 minutes or longer)

When the task is completed, the facilitator, or exercise leader, assists the group in evaluating the results of the goal-setting experienced in the four-phased process. Does the product—a prioritized list of goals—satisfy individuals and sub-groups, or is it a watered-down, diffuse set of goals which reflects a desire on the part of the group to avoid conflict and to achieve consensus? Did individuals feel involved in the goal-setting process? What kinds of leadership emerged in each step of the process? Was "consensus" a workable model given the time limitations imposed? Did the "fishbowl" offer adequate means for individuals in the outer circle to express themselves? Were the "fishbowl" representatives effective in completing the assigned task? What factors, or interactions, *helped* and which ones *hindered* the group in achieving completion of its assignment? What happened to individuals as they moved through Steps I through IV? Were individual and sub-group goals lost in the process? If so, why? Whose goals tended to get greatest acceptance? Was this due to charisma, leadership or status of certain individuals? What successes and failures were experienced in the use of the "consensus" model of decision making?

The "fishbowl" technique is a mechanism or device which, like any other tool, requires certain skills, knowledge and motivation in order for it to be helpful in group process. It is not a magic wand, but a very simple device for helping speed the process of achieving certain tasks requiring medium and large-sized group decision making.

AN ASSEMBLY LINE

For special need students the type of instruction depends on the degree of the student's handicap. With instructions well explained and demonstrated in pronounced steps the student will be able to achieve success. If spot judgment is necessary find a way of the student using a tool with measurable features so they do not have to guess. They know how many full pots of gravel or pro-mix to put into the plant container. Give them very specific guidelines.

If a student has problems organizing mentally set up a written check-list. His/her strong point may be being able to read very well. Giving them success on that level will help both the teacher and student in achieving success of a task. They still need to do the job manually so the checklist does not do the work for them.

A job may be too complicated for one student to complete alone. Team work with a "foreman" of the team will guide the slower worker. That way the students will be doing parts of that job more repetitively for more reinforcement of that task.

For the students that cannot do too many different steps at one task there is the assembly line procedure. Set up the job into individual steps. Each student will do one step of the job. They will all be participating in achieving a finished product which they will be able to observe. Look for time limits on each student, (some are too slow) doing the job correctly, knowing the tool names and functions of them and seeing that they understand the importance of working with others cooperatively.

Taking slides of the students doing the work gives the project more importance. The resulting slides help the student see their work. They enjoy seeing themselves - they give more attention to the slides which is teaching them again the work they have done. They can identify with the slide-approach them with a question pertaining to "Debbie" - what is "Debbie" doing? Debbie is their classmate who they worked with during the slide taking.

STUDENT FOREMAN EVALUATION

Every student is assigned on a rotation basis for a week long as a student foreman. The foreman is responsible for the supervision of clean-up and for crews in the field as assigned by the teacher.

The foreman grades each student daily on the basis of the work done and attitude. Near the end of the period, the foreman presents the grades to the instructor, who in turn evaluates those grades and the foreman. An average of the foreman's grades and the instructor's grades becomes the daily grades.

The system teaches the students how hard it is to evaluate. It also extends the influence of the teacher in supervision as the foreman is responsible for other students' work.

Sample Work Roster

Name	Work Assignment	Grades			Comments
		Foreman	Teacher	Average	

.50
36

EXPLAINING AGRICULTURE

- Plan a Food for America program during the last week of school. Both students and teachers will enjoy the change of pace.
- Early in the school year have a meeting of parents and students to explain the work experience program and FFA Activities.
- Invite school board members and administrators to sit in on a class session or an FFA meeting.

PUBLIC SPEAKING

.50
56

1. Start with progressive story telling - each student adds a line or two to a story that grows progressively as you go around the room.
2. Give students a key word to talk about.
3. Each student talk about a new article.
4. Work from a 30 second talk up to 2 minutes. Slowly but surely the students lose their fear of talking to a group. It starts as a game and becomes a skill.

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